

PolCA
(Polarimetria con CdTe Array)

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1. Introduzione

L'esperimento PolCA Polarimetry with CdTe Array è stato realizzato nell'ambito della collaborazione tra il Laboratorio PHASE (PHysique et Applications des SEmi-conducteurs) del CNRS di Strasbourg (Francia) e la Sezione IASF (Istituto di Astrofisica Spaziale e Fisica Cosmica) di Bologna del CNR.

L'idea dell'esperimento PolCA è nata nel contesto di una proposta per un telescopio dedicato a misure di polarimetria di sorgenti celesti di raggi X duri e di raggi gamma molli (100 keV – 10 MeV): CIPHER (Coded Imager and Polarimeter for High Energy Radiation) [1].

Il disegno innovativo di questo telescopio che si basa su un piano di rivelazione costituito da una matrice di microspettrometri di CdTe di elevato spessore (fino a 10-20mm) (Fig.1) permetterà per la prima volta di realizzare misure di polarizzazione ad alta sensibilità per energie superiori a 100 keV.

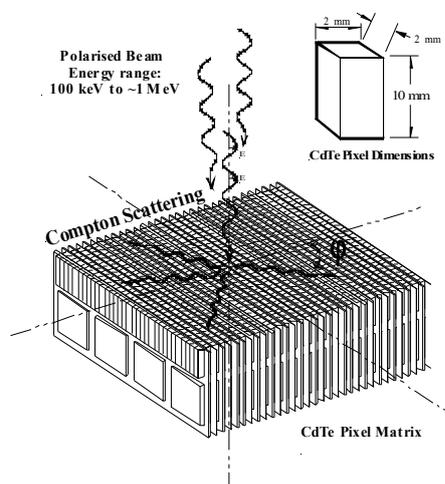


Fig. 1 –Schema di un modulo CHIFER.

radiazione polarizzata linearmente ad alta energia utilizzando il fascio *High Energy X-Ray Scattering (ID 15)* disponibile presso l'ERSF (European Synchrotron Radiation Facility) di Grenoble (Fig.2).

La beam line ID15 è ideale a questo scopo in quanto è in grado di produrre radiazione linearmente polarizzata al 100% in un intervallo di energia utile tra 100 keV e il MeV.



Fig. 2 European Synchrotron Radiation Facility.

Questo esperimento è stato proposto alla commissione dell'ESRF per ottenere l'accesso alla facility, la proposta MI-592 è stata accettata con 12 shift da 6 ore di beam time e la campagna di misure si è svolta dal 1 al 5 Luglio 2002.

2. Apparato sperimentale

Lo schema a blocchi di Fig. 3 rappresenta l'apparato sperimentale di PolCA che è costituito da quattro sottosistemi i cui dettagli funzionali saranno esaminati nei paragrafi successivi. I criteri progettuali che hanno portato all'implementazione di figura 3 sono principalmente:

- affidabilità dei dati ottenuti
- contenimento degli investimenti compatibilmente con il punto a) e, di conseguenza, utilizzazione con modifiche non drastiche di sottosistemi già collaudati in precedenza ed affidabili
- ottimizzazione delle risorse e dei contributi dei partners.

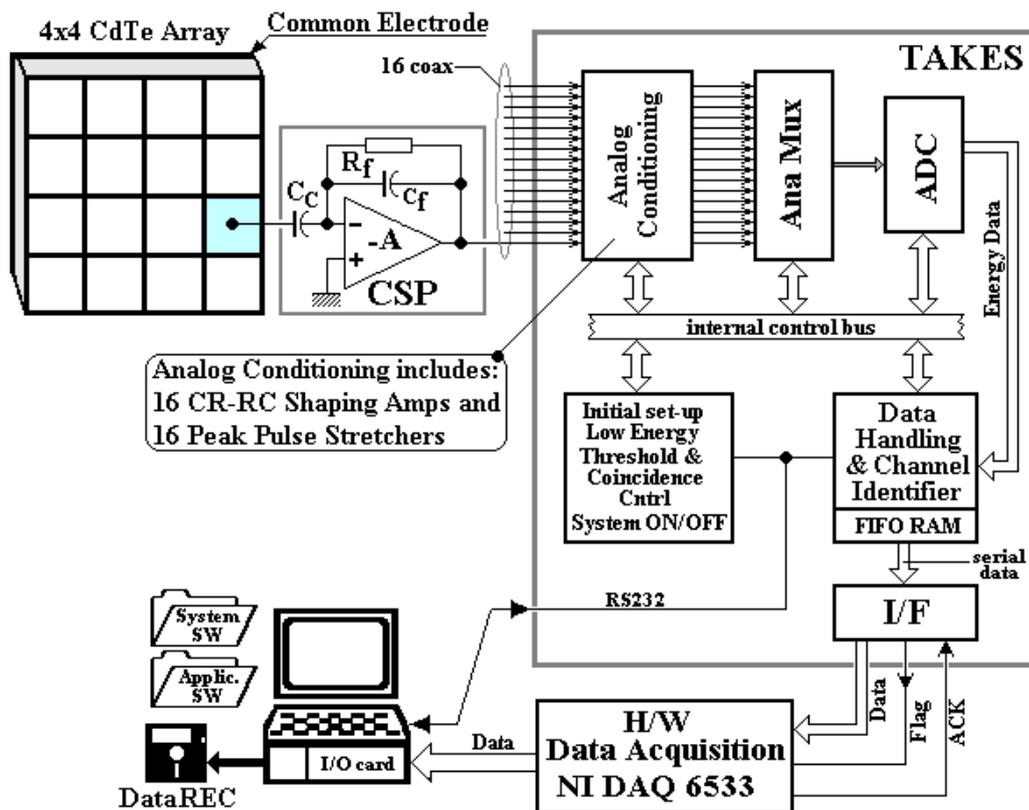


Fig. 3 Diagrammi a blocchi dell'apparato sperimentale di PolCA.

2.1 Rivelatore ed elettronica di front-end

Al fascio dell'acceleratore di Grenoble sono stati esposte tre matrici di CdTe, ciascuna organizzata in sedici elettrodi individuali di raccolta delle cariche. Le matrici, "target" del fascio, si differenziano l'una dall'altra per le dimensioni secondo quanto indicato dalla Tabella I.

Ogni matrice ha un elettrodo comune polarizzato ad alta tensione negativa e sedici elettrodi di raccolta distinti schematizzati in figura 3.

Matrice				Pixel (mm)	Bias (V/mm)	ρ (Ohm/cm)	DC nA
Spessore	3.4	5	7.5	2.5 (2.3+0.2)	~100	1 – 5 x10 ⁹	20-40
Codice	1167_11	1283_26	1186_49				

Tab. I Caratteristiche fisiche dei rivelatori.

Matrice di rivelazione ed elettronica di front-end (16 charge Sensitive Preamplifiers-CSP) sono racchiusi in un contenitore schermato ed a tenuta di luce (Fig. 4a e Fig. 4b) con una finestra, in corrispondenza del rivelatore, di 50 μ di spessore di Alluminio.

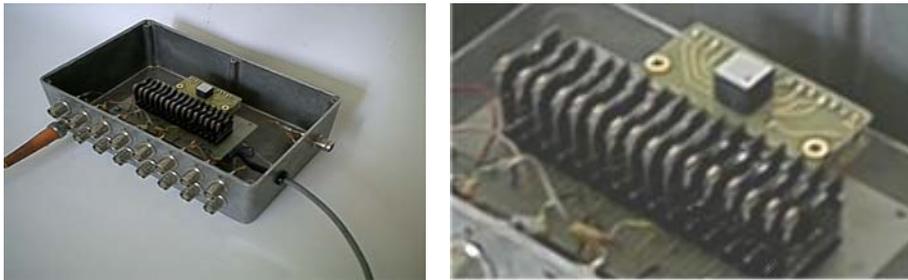


Fig. 4a/ 4b Matrice di rivelazione ed elettronica di front-end.

Questo sottosistema, fornito dal PHASE/CNRS di Strasburgo, presenta 16 uscite preamplificate su connettori coassiali (Fig. 4a).

Le caratteristiche principali dei CSP EURORAD impiegati sono riportate in Tabella II.

Power supply	± 12 Vdc
Output polarity	Positive
Sensitivity	2V/pC
Fall time	1ms
Input coupling	AC

Capacitance (pF)	Noise KeV
0	1.5
56	2.7
100	3.8

Tab.II Caratteristiche preamplificatori.

2.2 Elettronica TAKES per il condizionamento dei segnali analogici e conversione A→D

Il diagramma a blocchi di Fig. 3, evidenzia i sottosistemi funzionali dell'elettronica TAKES.

Nella seguente tabella sono riassunte le principali caratteristiche del sistema.

Guadagno dello stadio di amplificazione	10 à 30
Tempo di formatura del segnale	0.5µs
Finestra di coincidenza programmabile	2-20 µs
Alimentation	± 12 V
Potenza dissipata	~ 5 W
Clock interno	5 MHz

Tab.III Caratteristiche elettroniche del sistema TAKES.

TAKES è connessa via RS232 operante a 9.6 kbaud all'unità di controllo centrale (CPU) che ne governa le seguenti operazioni:

- ON/OFF ovvero START/STOP
- ON/OFF Logica di Coincidenza

i) In "coincidence OFF" ogni evento viene convertito senza subire alcuno condizionamento;

in condizione di "coincidence ON" sono abilitati alla conversione due o più eventi provenienti da canali di rivelazione diversi che si sovrappongono entro la finestra temporale prefissata e selezionabile tra 2µs e 20 µs.

Il valore usato durante le misure a Grenoble è stato di 2µs.

- Calibrazioni iniziali: correzione di guadagno, zero e offset (Appendice B1)
- Predisposizione dei parametri operativi e setting della finestra di energia.

I sottosistemi di TAKES per il **condizionamento analogico dei segnali** sono costituiti da:

- 16 amplificatori lineari con rete attiva di formazione (CR-RC)
- 16 peak-pulse stretchers con pre-allungamento e ritenzione del valore di picco nel caso vi sia abilitazione della logica di coincidenza.
- **Multiplexer analogico** - 16 Ingressi ed un'uscita che viene inviata ad un ADC di tipo "flash" a 12 bit di cui vengono usati i 10 più significativi per la conversione dell'energia dell'evento.
- **Data handling** - Raccoglie i dati forniti dall'ADC corredati dal dato di identificazione del canale eccitato dall'evento. E' costituito da una memoria RAM organizzata in FIFO da 8 kB a 32 bit di contenuto. Questa è quindi una memoria temporanea di derandomizzazione per la memoria di massa esterna alla quale i dati vengono inviati in via seriale attraverso quattro cavi BNC.

Se la FIFO non viene scaricata abbastanza velocemente si perdono i dati in ingresso fino allo svuotamento della FIFO stessa.

I dati seriali presentati all'uscita sono sincronizzati con un clock interno operante a frequenza di 5 MHz.

- **Interfaccia di uscita** - Presenta i dati, verso l'esterno, immagazzinati nella FIFO/RAM in forma parallela con protocollo di tipo *handshake* basato sulla generazione di un FLAG per l'invio dei dati e sulla ricezione di un "DACK" (data acknowledge) dal sottosistema di acquisizione dati. Questo processo di duplice conversione da parallelo a seriale (livello ADC-FIFO/RAM) e da seriale a parallelo (livello uscita FIFO/RAM÷I/F) è stato ritenuto necessario per una parziale derandomizzazione dei dati.

2.3 Sistema di acquisizione dati

L'acquisizione dei dati è affidata ad una scheda H/W National Instrument (NI DAQ 6533) esterna all'unità centrale, collegata al PC su un bus PXI sul quale è stato caricato il SW dedicato alla gestione dell'esperimento.

3. Particolarità sul controllo dell'apparato sperimentale e sull'acquisizione dati

Si vogliono di seguito esaminare alcune particolarità hardware e software relative al flusso dei dati.

3.1 Trattamento dati

Si è già accennato al fatto che i dati forniti all'uscita del sottosistema Data Handling di TAKES sono in forma seriale.

L'acquisizione dei dati in PC avviene tramite la scheda NI DAQ 6533 che richiede dati paralleli da affacciare al bus del PC sotto il controllo del SW dedicato sviluppato in ambiente LabVIEW.

E' quindi stato necessario introdurre un'interfaccia (I/F di Fig. 1) che svolgesse il compito di convertire i dati da forma seriale in forma parallela.

La situazione H/W adottata è mostrata in dettaglio in Fig. 5.

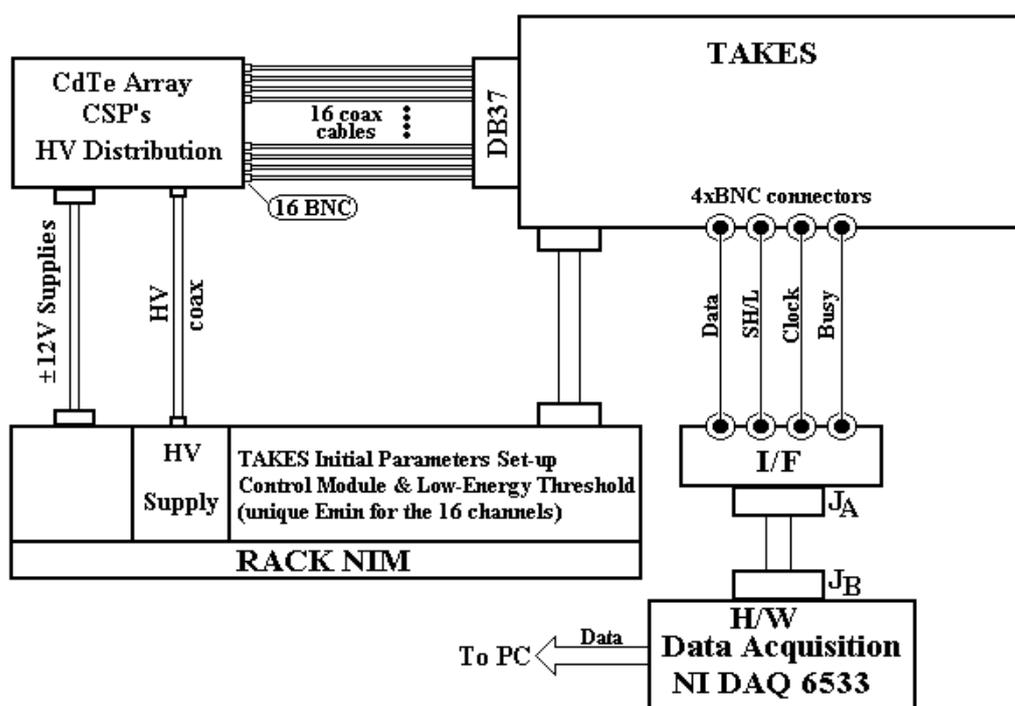


Fig. 5 Harness dell'intero apparato di acquisizione dati di PolCA.

La conversione dei dati seriali in formato parallelo avviene in I/F che riceve da TAKES quattro segnali su cavi coassiali:

- *Dati* - Formato seriale a 32 bit inseriti in uno shift register.
- *Clock* - Temporizza il campionamento/avanzamento dei dati nello Shift register ad una frequenza di 5 MHz.
- *SH/L* - Comando di Shift o Load dei dati.

Busy - Inibisce lo shift nel caso in cui il sistema di origine sia occupato.

3.2 Formato dei dati

Il sottosistema I/F di Fig. 3 trasferisce all'uscita un dato in forma parallela ogni volta che si è verificato un evento in un singolo pixel (*it*) dell'array di rivelazione. Dei 32 bit che costituiscono il dato originario in forma seriale, vengono presentati all'uscita 16 bit il cui significato è descritto dalla Fig.6.

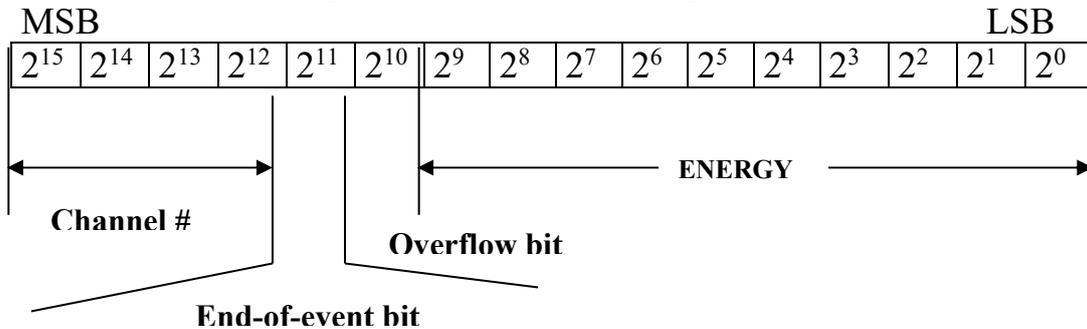


Fig. 6 Significato della parola dei dati a 16 bit.

Il bit di fine evento assume il valore 0 nel caso si tratti di una interazione che ha coinvolto un solo pixel dell'array, 1 nel caso in cui l'evento sia multiplo.

I/F colloquia con la scheda di acquisizione-dati NI DAQ 6533 in modo "handshake".

3.3 Hardware NI DAQ 6533

La scheda di acquisizione dati dispone di 32 linee di I/O digitali configurabili sotto controllo software come input/output, in 4 porte da 8 bit ciascuna.

Il clock interno lavora a 20 MHz, il che permette, operando in *double buffer mode*, di acquisire dati ad elevate count rate.

NI DAQ 6533 può gestire le 32 linee in quattro modi differenti:

- Unstrobed
- Handshaking
- Pattern
- Change Detection

Come già detto, per PolCA è stato scelto, come più adeguato, la modalità *Handshaking* in Direzione/Input, che consente di comunicare con un device esterno usando uno scambio di segnali di richieste FLAG/REQ e di riconoscimento ACK per ogni dato trasferito.

Il relativo funzionamento è schematicamente mostrato in Fig. 7.

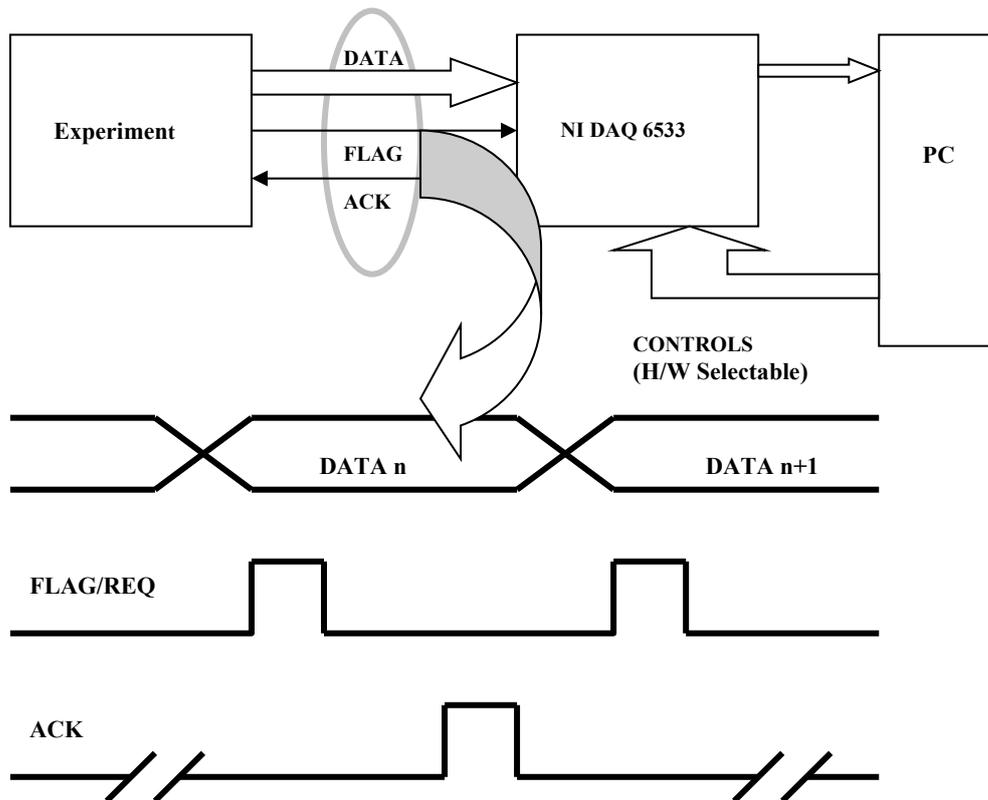


Fig. 7 Transferimento Dati tra i due Devices.
Sequenza dei segnali FLAG e ACK.

In tabella IV è mostrata la combinazione delle porte e del controllo delle temporizzazioni selezionati in base all'ampiezza dei dati di PolCA.

Transfer Width	Possible Port Combinations	Timing Controllers That Can Be Used
16 bits (8+8)	Port 0 – (DIOA<0-7) Port 1 – (DIOB<0-7)	Group 1

Tab.IV Combinazione delle Porte.

Le due porte parallele da 8 bit, governate nel controllo temporale del trasferimento dal Gruppo 1, sono denominate 0 e 1 nel software e A e B nell'hardware (vedi Fig.25).

In Appendice A sono mostrate le connessioni dei segnali digitali in input al connettore I/O JB di Fig. 7 della scheda DAQ.

La scheda supporta vari protocolli handshaking che permettono la comunicazione col device esterno. Il protocollo adottato determina la temporizzazione dei segnali ACK e FLAG (REQ) a livello hardware.

In figura 7 è mostrata la temporizzazione di tipo *Leading Edge Input* adottata per l'esperimento PolCA configurabile a livello SW (vedi Fig. 28b).

Allo stato iniziale la DAQ 6533 è in attesa del FLAG di Ready dell'interfaccia TAKES, esclusivamente dopo tale segnale inizia il trasferimento dati.

- DIO Config
configura il timing del protocollo handshaking
- DIO Start
avvia l'acquisizione
- DIO Read
legge i dati dal buffer interno
- DIO Clear
riazzerà lo stato della DIO.

Nel diagramma di flusso si distingue il loop corrispondente alla fase di lettura e acquisizione dati da parte della NI DAQ 6533.

La caratterizzazione e descrizione delle funzioni sopra elencate è descritta nel Manuale d'uso allegato in Appendice B1.

Al termine dell'acquisizione il programma registra su file in formato ASCII i dati acquisiti.

3.4.2 Riproduzione

Il programma PolCA_Reproduction.vi legge i file delle misure acquisite tramite PolCA_Acquisition.vi e visualizza i dati sull'interfaccia grafica.

In Appendice B è allegata la descrizione dei parametri controllati e il Manuale d'uso relativo.

4. Campagna di misure eseguite a Grenoble

4.1 Configurazione dell'esperimento

Tutti i sottosistemi di PolCA sono stati montati all'interno del hutch sperimentale, schematizzato in Fig.10, della linea ID-15 lasciando all'esterno, Fig.14; solo il PC di controllo dell'esperimento.

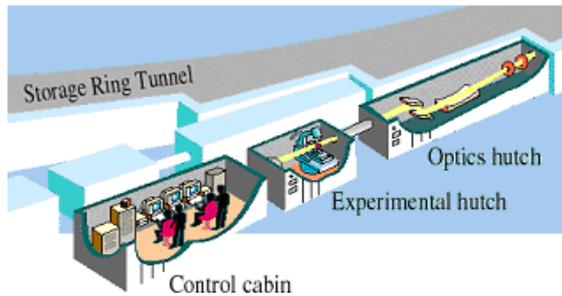


Fig. 10

La scatola del rivelatore è stata montata su delle tavolette micrometriche di movimentazione XYZ e all'interno di un sistema di rotazione a 360° attorno alla direzione del fascio.

Nelle figure 11,12 e 13 è mostrato tale dispositivo meccanico in varie prospettive.

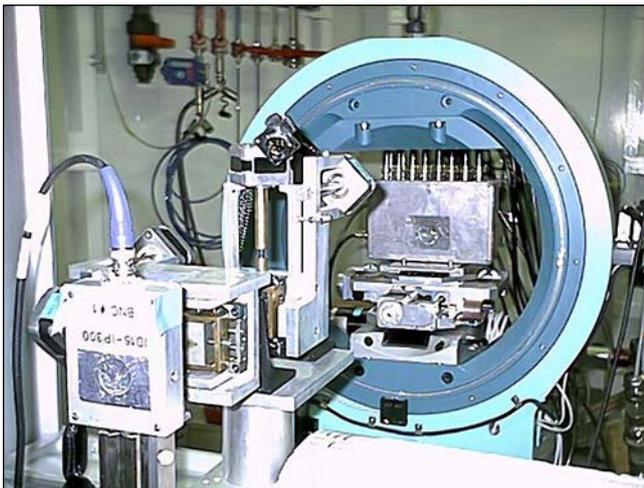


Fig.11 Vista anteriore.

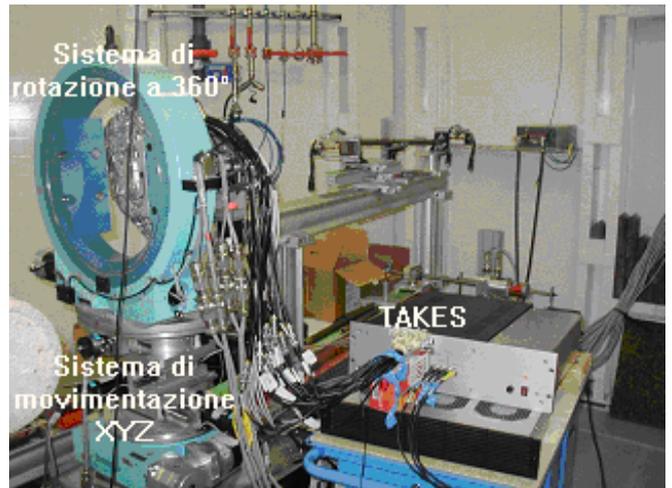


Fig.12 Vista di lato.

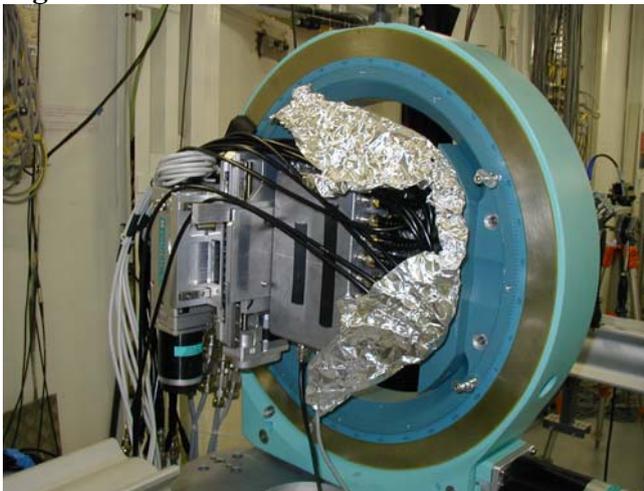


Fig.13 Vista posteriore.



Fig.14 Cabina controllo.

Le misure sono state realizzate irraggiando i rivelatori con con fasci monocromatici a tre diverse energie: 100, 300, e 400 keV.
 In tabella V sono riportati i parametri principali del fascio della linea *ID-15* [3].

Densità di potenza	4.2 W/mm ²
Elementi ottici	Lente monocromatica
Max apertura beam	70 mm
Flusso max (@100 keV)	10 ⁶ fotoni/s
Flusso(500 keV)/Flusso(100 keV)	~ 0.001
$\Delta E/E$ (FWHM)	0.1-0.00001
Livello di polarizzazione	~100 % (\perp al fascio e orizzontale al fascio)

Tab. V Caratteristiche del fascio *ID-15*.

Tra il fascio all'uscita del monocromatore e la finestra del rivelatore (Fig. 15) è stato posto un collimatore di tungsteno con un'apertura di sezione quadrata variabile in dimensioni. Le misure sono state effettuate con due diverse aperture rispettivamente: 0.2×0.2 mm² a 100 keV e 300 keV e a 0.4×0.4 mm² a 400 keV per aumentare l'intensità del flusso. Allo scopo di limitare ulteriormente l'intensità del fascio incidente ed evitare problemi di pile-up nell'elettronica di front end, si è introdotto uno spessore di piombo di 1 mm tra il collimatore di tungsteno ed il rivelatore.

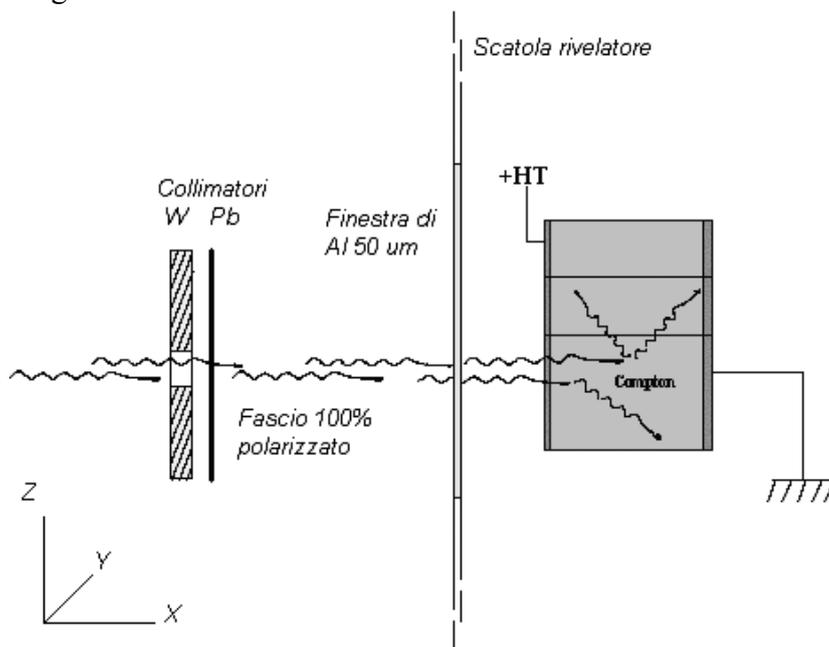


Fig. 15 Geometria d'irraggiamento.

4.2 Schema delle misure

In fase di configurazione del set-up sperimentale si è inizialmente verificata la soglia di trigger e l'allineamento dei guadagni dell'elettronica di front end irraggiando con una sorgente di Co⁵⁷ la matrice da 3.3 mm di spessore (cod. 1167/11).

La soglia unica è stata impostata ad un valore di energia equivalente a 30-50 keV; il valore esatto dipende infatti dal singolo pixel.

Successivamente sono state effettuate misure del livello di fondo dentro il hutch sperimentale in assenza di fascio.

Questi test hanno mostrato un ambiente non contaminato con un fondo di pochi conteggi al secondo integrato sull'intero intervallo funzionale di energia (~50-1000 keV) di PolCA.

Dopo queste operazioni preliminari si è passati alla fase operativa secondo la seguente procedura:

1. Centrazione del rivelatore.

Usando il s/w di quick-look si è spostato il sistema di posizionamento del fascio sino ad ottenere, nei 4 pixel centrali, una distribuzione dei conteggi uniforme.

2. Spostamento del fascio sul primo pixel del rivelatore (pixel 1).

3. Scansione completa del rivelatore.

partendo dal pixel 1 e seguendo il percorso evidenziato in figura 16.

4. Rotazione del rivelatore di 90° e ripetizione degli step 1, 2 e 3.

Si è reso necessario ruotare il rivelatore per correggere gli errori sistematici nel posizionamento dello spot del fascio.

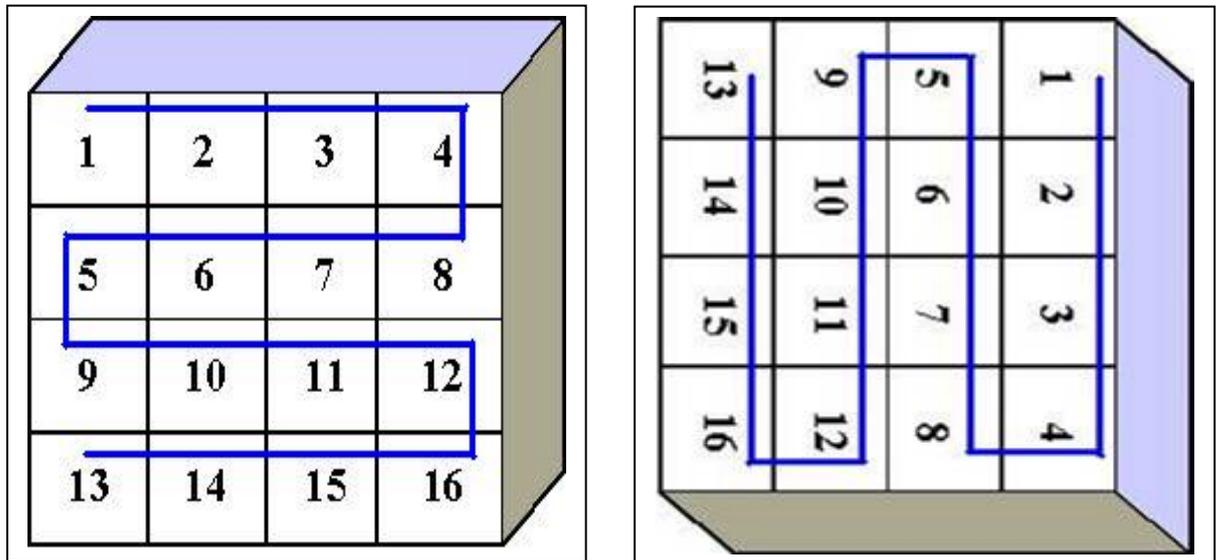


Fig.16 a/b. Spostamento del fascio lungo la matrice in configurazione a 0° e 90°.

4.3 Esempi di dati acquisiti

In tabella VI è riportata lo schema delle misure effettuate durante la campagna di Luglio.

Matrice		Energia (keV)					
		100		300		400	
Codice	Spessore (mm)	Angolo di rotazione					
		0°	90°	0°	90°	0°	90°
1167/11	3.4	✓		✓	✓	✓	✓
1283/26	5			✓	✓	✓	✓
1186/49	7.5			✓	✓	✓	

Tab.VI Misure ESRF.

Tipicamente le misure sono durate da 3 a 10 minuti.

In Appendice C sono riportati due logbook di tutte le misure realizzate durante la campagna ESRF, il primo è relativo ai test preliminari e il secondo alle misure vere e proprie.

Nelle successive quattro figure (17-20) sono mostrati alcuni dei dati acquisiti attraverso l'interfaccia di riproduzione del SW *PolCA_Reproduction* (paragrafo 3.4.2).

La Fig.17 è relativa alla matrice di 3.4 mm irraggiata col fascio a 100 keV centrato sul pixel 11.

La Fig.18 è relativa alla matrice di 5 mm irraggiata col fascio a 300 keV centrato sul pixel 11.

Le Fig.19 e 20 sono relative alla matrice di 7.5 mm irraggiata col fascio a 300 e 400 keV centrato sul pixel 11.

Le figure sono suddivise in parte a) e parte b).

Quelle identificate con a) mostrano i dati (le scale di tutti i display sono lineari) evidenziando il pixel su cui incide il fascio e il suo spettro. Le figure identificate con b) mostrano gli stessi dati evidenziando la distribuzione dei conteggi intorno al pixel d'incidenza e lo spettro di uno dei pixel adiacenti, in questo caso la scala della distribuzione in falsi colori e dell'istogramma è logaritmica.

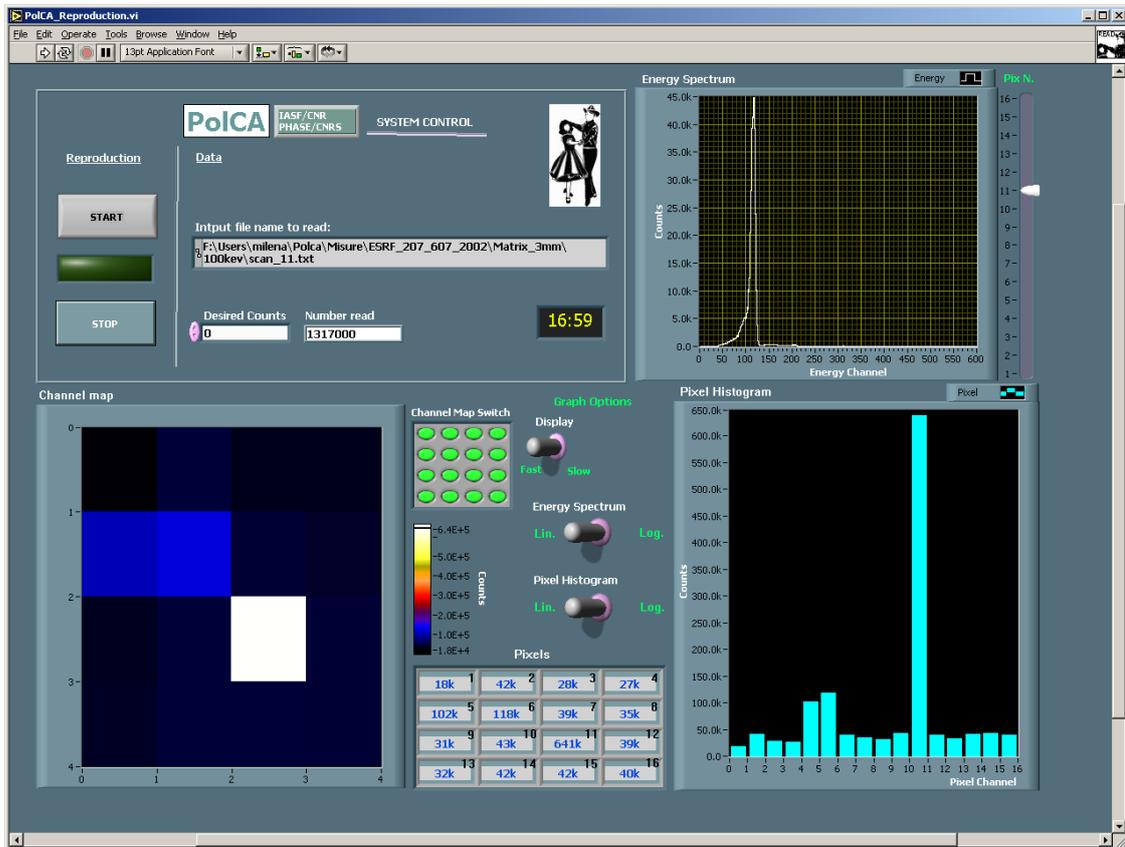


Fig. 17a Matrice 1167/11-100 KeV-Pixel 11.
Pixel ON

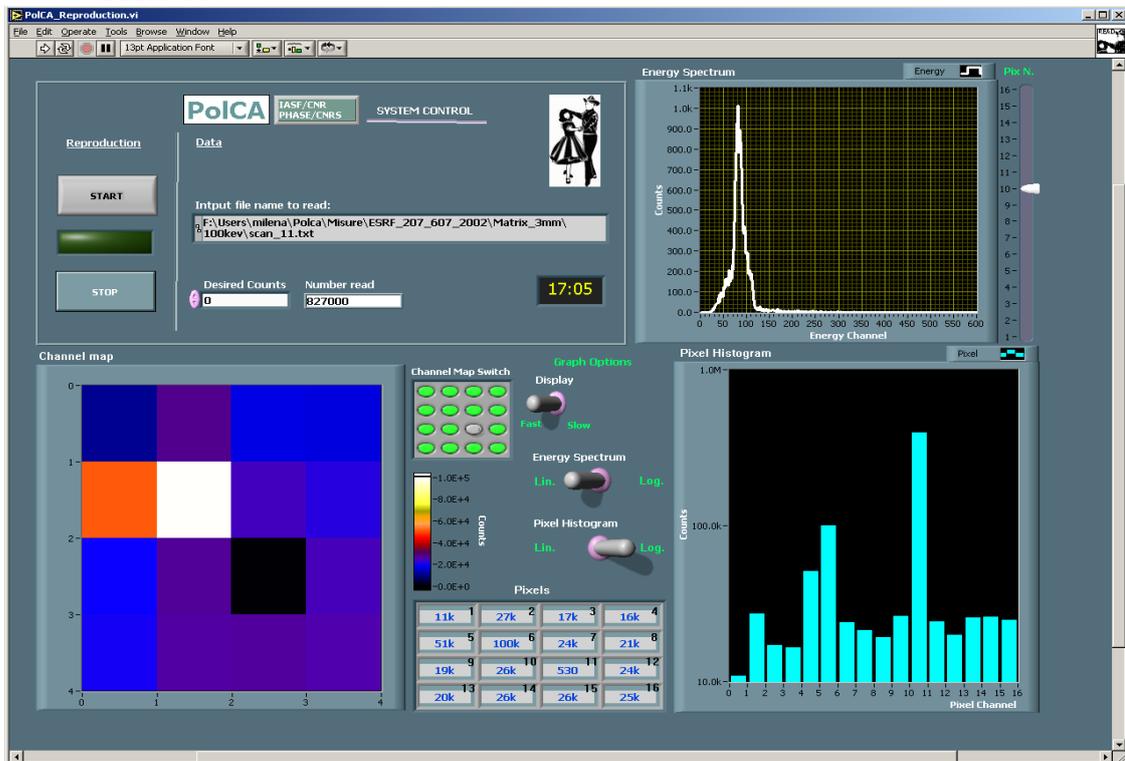


Fig.17b Matrice 1167/11-100 KeV-Pixel 11.
Pixel Off-Istogramma logaritmico.

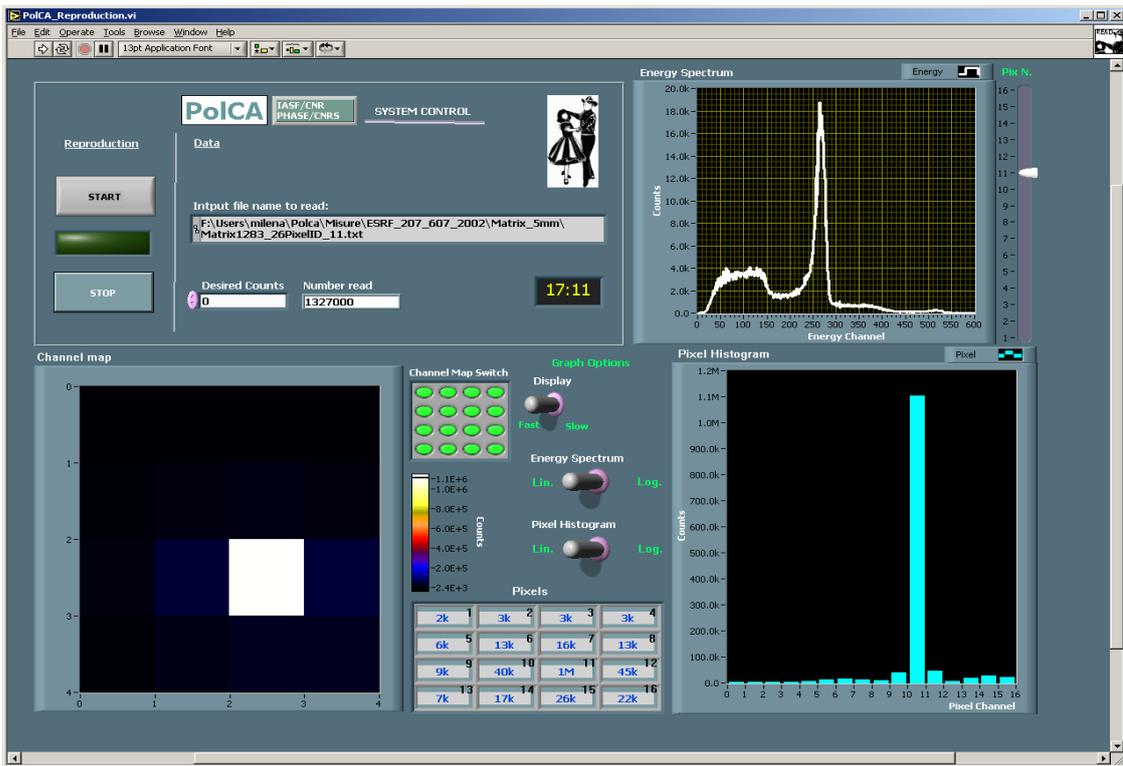


Fig. 18a Matrice 1283/26-300 KeV-Pixel 11.
Pixel On.

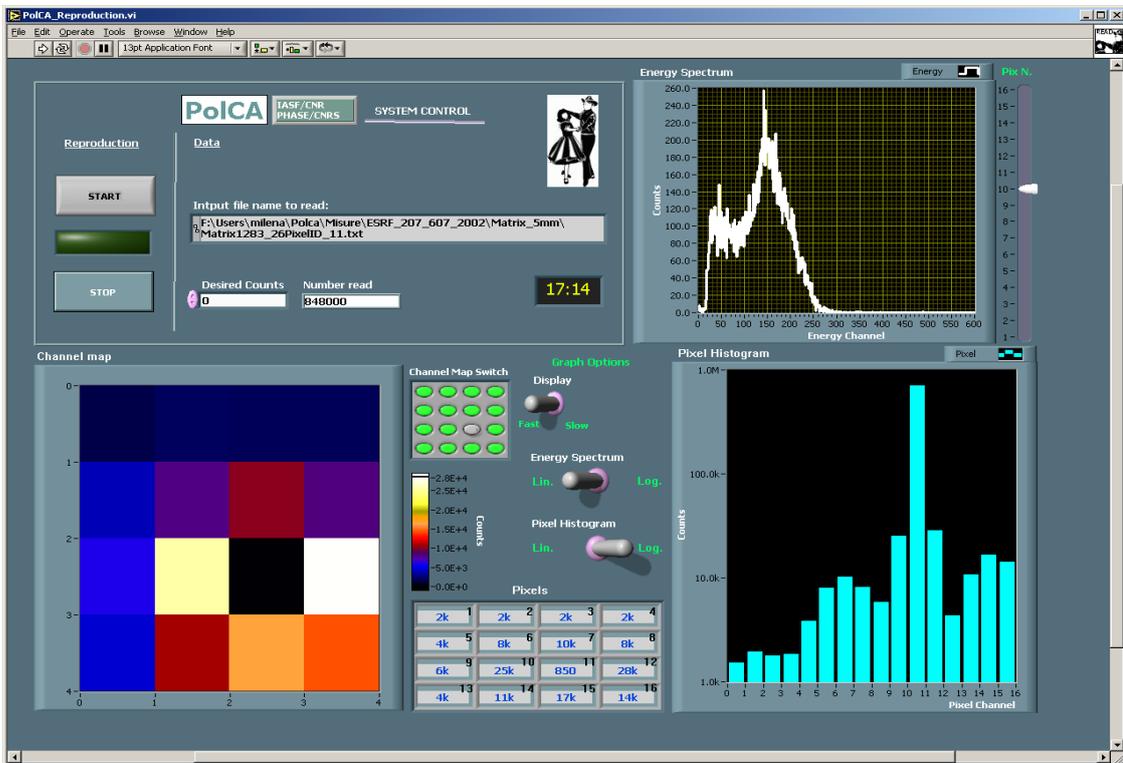


Fig. 18b Matrice 1283/26-300 KeV-Pixel 11.
Pixel Off-Istogramma logaritmico.

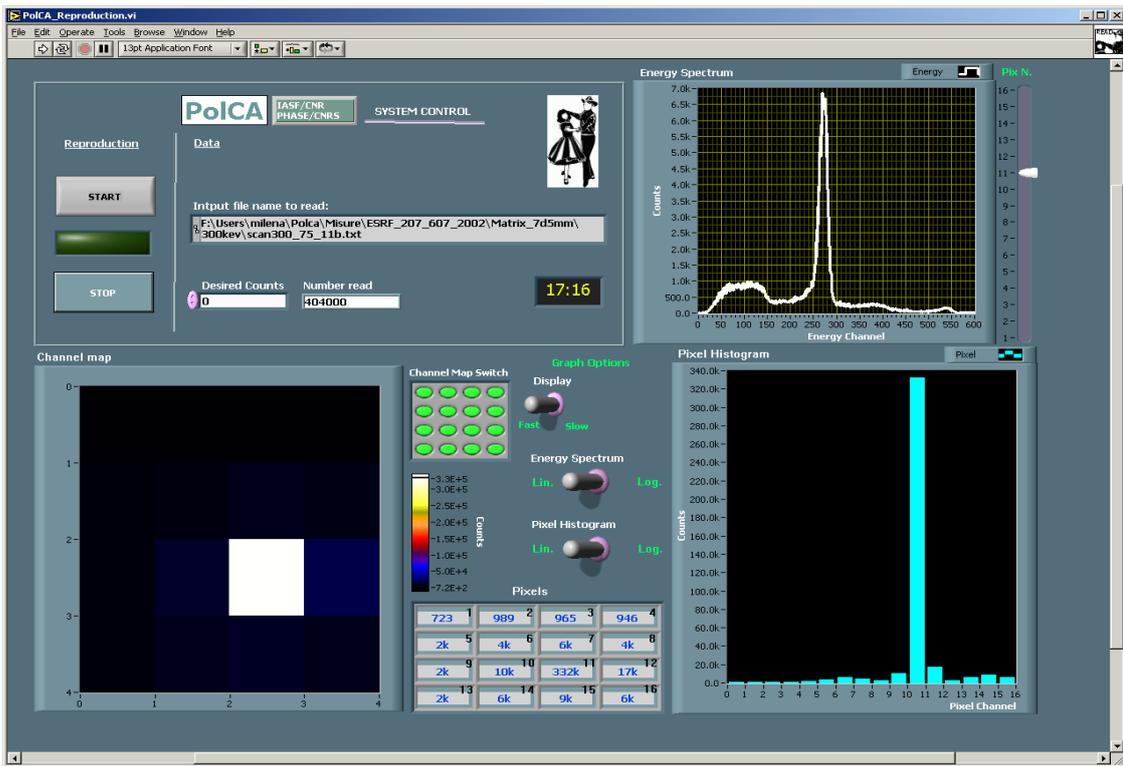


Fig. 19a Matrice 1183/49-300 KeV-Pixel 11.
Pixel On.

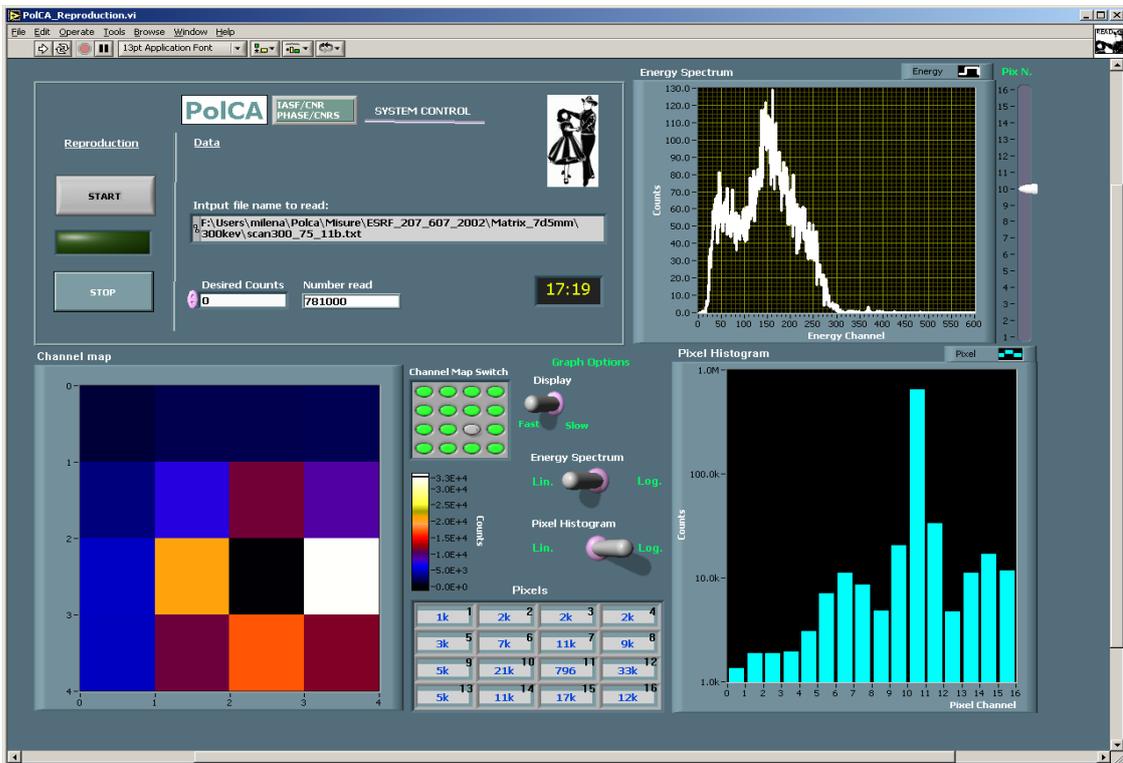


Fig. 19b Matrice 1183/49-300 KeV-Pixel 11.
Pixel Off. Istogramma logaritmico.

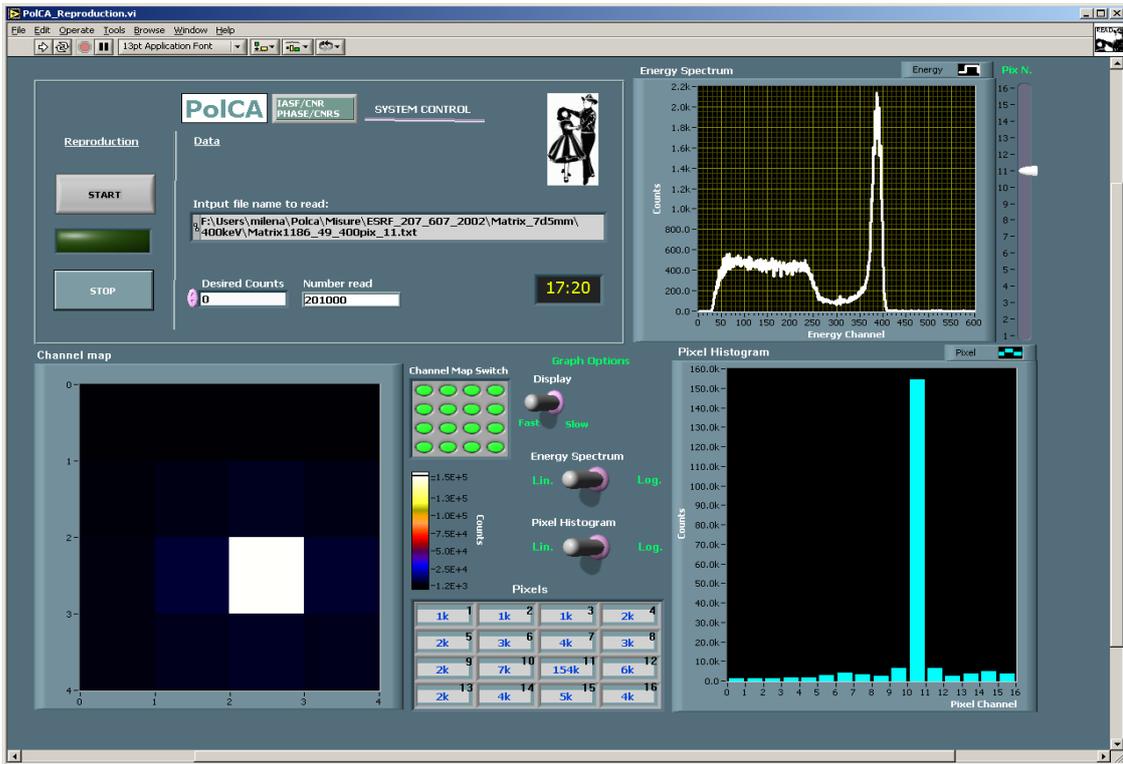


Fig. 20a Matrice 1183/49-400 KeV-Pixel 11.
Pixel On.

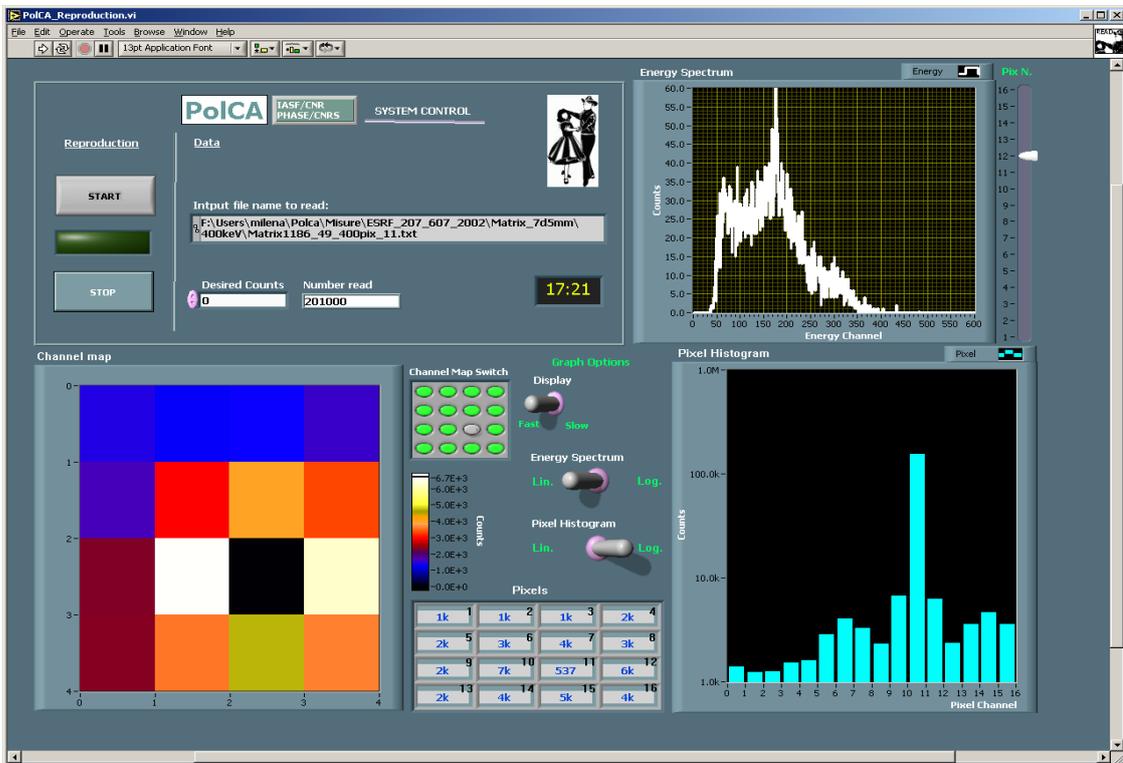


Fig. 20b Matrice 1183/49-400 KeV-Pixel 11.
Pixel Off. Istogramma logaritmico.

5. Conclusioni

I dati sono stati analizzati per caratterizzare le matrici in termini di uniformità di guadagno, di efficienza e di risoluzione energetica [4].

In parallelo è stata fatta una prima valutazione delle prestazioni polarimetriche utilizzando un set parziale dei dati delle matrici valutando il fattore di qualità Q [5]. Questo studio sarà ulteriormente approfondito nei prossimi mesi utilizzando tutti i dati disponibili.

Dai risultati dell'analisi preliminare, relative alle prestazioni complessive delle matrici di CdTe utilizzate, sono state tratte le seguenti conclusioni:

- Buone prestazioni spettroscopiche che possono essere migliorate utilizzando una tecnica di compensazione dei segnali (per esempio filtro a doppia formatura, correzione del tempo di salita)
- Uniformità di risposta: una media di 1 noisy pixel per matrice (in generale pixel di spigolo). E' richiesta una calibrazione più fine delle singole matrici.
- Polarimetria. Risultati molto promettenti: il fattore Q misurato conferma i risultati delle simulazioni. E' in corso un'analisi più approfondita.

Per acquisire maggiori informazioni sulle prestazioni polarimetriche di questo tipo di rivelatori sensibili alla posizione, si prevede di ripetere i test al fascio nel prossimo anno ad altre energie comprese tra 100-1000 keV e in futuro utilizzando matrici di dimensioni maggiori. Queste ultime permetteranno lo studio del fattore Q in funzione della distanza tra i due pixel coinvolti dall'interazione verificando le previsioni delle simulazioni per cui il fattore di qualità aumenta con questa distanza.

6. Riferimenti

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Proceedings of the 6th International Conference on Position Sensitive Detectors, Leicester, UK, 9th-13th September 2002 (*in stampa*).
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Proceedings of the IEEE NSS/MIC, Norfolk, (USA), 10th – 16th November 2002 (*in stampa*).

A Harness

Pin function connettore JB.

La scheda NI DAQ 6533 è nativa a 68 pin ma nell'esperimento PolCA si è utilizzato un adattatore 68/50.

La figura mostra la destinazione sul connettore, in input alla scheda, dei segnali ACK, REQ e GND e dei dati digitali.

I bit sono associati alle porte A e B secondo nel seguente ordine:

DIOA7 / MSB DIOB7 / MSB

DIOA0 / LSB DIOB0 / LSB.

DIOD1	1	2	DIOD4
DIOD3	3	4	DIOD0
DIOD6	5	6	DIOD7
DIOD2	7	8	DIOD5
DIOC5	9	10	DIOC7
DIOC3	11	12	DIOC1
DIOC2	13	14	DIOC0
DIOC6	15	16	DIOC4
GND	17	18	ACK2
GND	19	20	STOPTRIG2 (IN2)
GND	21	22	PCLK2 (OUT2)
GND	23	24	REQ2
GND	25	26	GND
ACK1	27	28	GND
STOPTRIG1 (IN1)	29	30	GND
PCLK1 (OUT1)	31	32	GND
REQ1	33	34	GND
DIOA4	35	36	DIOA6
DIOA0	37	38	DIOA2
DIOA1	39	40	DIOA3
DIOA7	41	42	DIOA5
DIOB6	43	44	DIOB2
DIOB7	45	46	DIOB6
DIOB0	47	48	DIOB3
DIOB4	49	50	DIOB1

Fig.21 Adattatore 68/50 Pin del connettore JB.

B Manuale d'uso PolCA

B.1 Specifiche del linguaggio SW utilizzato

Il software di gestione dell'acquisizione è stato sviluppato in linguaggio di programmazione LabVIEW (versione 6.1).

Il Personal Computer sul quale è caricato il codice deve necessariamente prevedere l'installazione dell'ambiente National Instruments comprensivo del pacchetto Measurement & Automation Explorer e dei driver NI-DAQ della scheda di acquisizione.

Il software deve risiedere in un direttorio denominato Polca e i file di output vengono salvati automaticamente nel direttorio Misure (Fig.22).

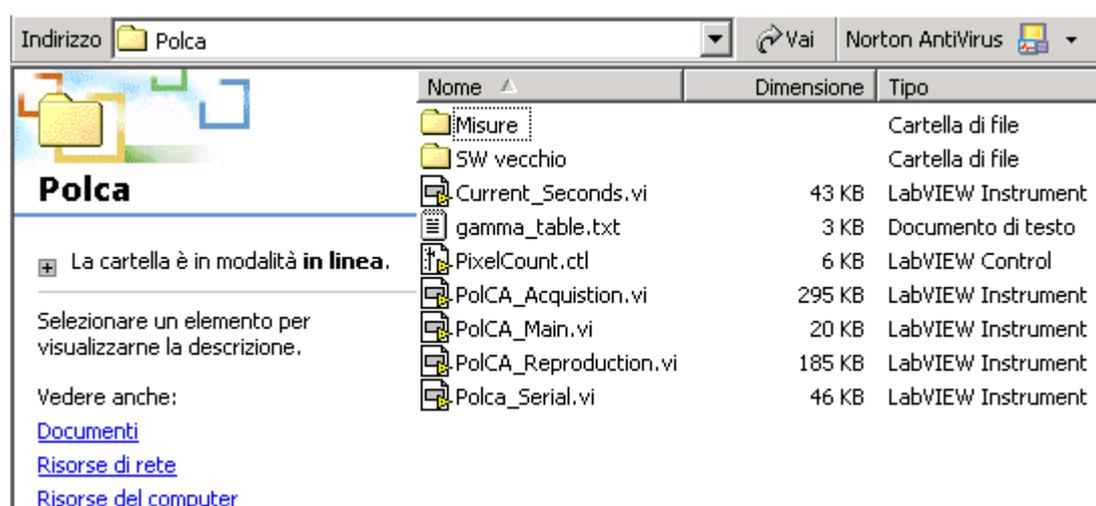


Fig. 22 Path PolCA.

LabVIEW utilizza un' interfaccia di tipo grafico (detto *linguaggio G*) strutturato in diagrammi a blocchi. Ogni diagramma è addetto allo svolgimento di un compito, ed un programma (chiamato *vi*, cioè "virtual instrument") può essere composto di più diagrammi di questo tipo, può cioè contenere più *vi* al suo interno (che in questo caso vengono chiamate *sub-vi*).

Il *vi* è costituito da un pannello di controllo (o più di uno) quale interfaccia grafica del software attraverso cui impostare le informazioni necessarie per il suo svolgimento. Il pannello può contenere anche indicatori che mostrano i valori delle variabili. La programmazione si esegue nel diagramma a blocchi, che contiene, sottoforma di simboli grafici, tutte le informazioni riguardanti la struttura del programma.

B.1.2 Descrizione del programma

Il *vi* PolCA_Main, permette la selezione (Fig. 23) di due diversi programmi:

Main.vi

Polca_Acquisition

- controlla l'acquisizione e acquisisce

Polca_Reproduction

- riproduce i dati acquisiti

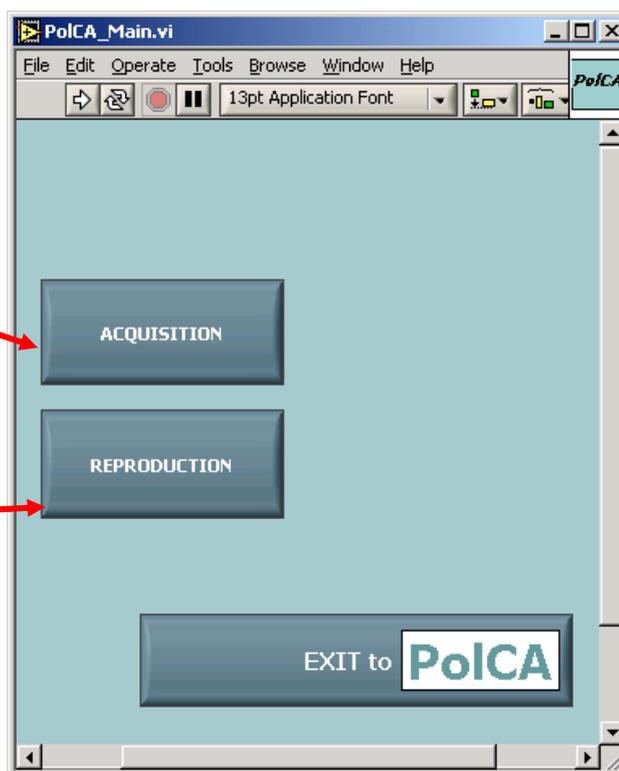


Fig.23 PolCA_Main menù.

B.1.3 Struttura del programma

La selezione delle *subvi* relative all'acquisizione e alla riproduzione è esclusiva, non è quindi possibile lavorare in parallelo su entrambi i codici.

La vi principale *PolCA_Main.vi* è sempre attiva. Alla fine dell'esecuzione di ognuna delle due sub-vi principali il programma rimanda l'utente in *PolCA_Main*.

Il software è suddiviso in sottoprogrammi che vengono chiamati secondo la struttura ad albero mostrata in figura 24. Lo schema di Fig. 24 mostra i diversi percorsi delle VI relative all'acquisizione e alla riproduzione, solo il programma *Polca_Acquisition* chiama i *subvi* che configurano l'hardware, entrambi invece utilizzano la parte di gestione dei file di I/O, degli errori e delle funzioni matematiche che permettono la visualizzazione dei dati in forma di istogramma.

B.2 Polca_Acquisition

Il programma *Polca_Acquisition* lavora con una scheda NI PXI 6533 e necessita di un segnale di flag esterno per l'acquisizione.

B.2.1 Pannello frontale

Nel pannello frontale (Fig. 25) è possibile impostare i parametri necessari all'esecuzione del programma e controllare l'andamento della misura.

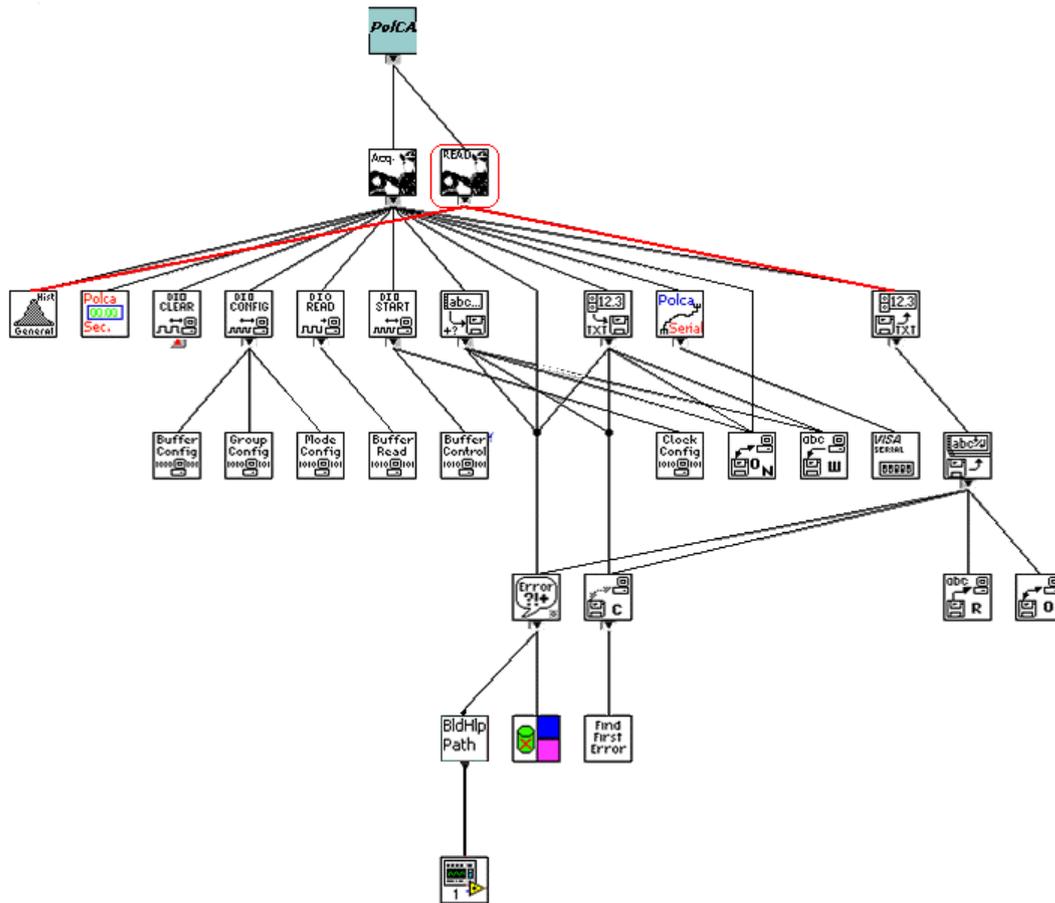


Fig.24 Gerarchia delle subvi chiamate dal programma PolCA_Main.

INPUT

Nella sezione *Storage*:

- scegliere il codice desiderato (dec/hex/bin) per la scrittura dei dati su file;
- scrivere il nome del file (l'estensione e il percorso su disco in cui viene salvata la misura viene inserito automaticamente);
- scrivere un eventuale commento sulle condizioni di misura, tali informazioni andranno ad integrare il file log.

Nella sezione *Data* scegliere quando terminare l'acquisizione selezionando Time o Counts e impostare il valore da raggiungere.

Se le opzioni sono ignorate la misura termina quando viene premuto il bottone di STOP.

Nella sezione *Acquisition* avviare il programma con il bottone di START.

Durante tutta la durata dell'acquisizione resta acceso il led verde.

CONTROLLO

La sezione *System Control* visualizza i dati acquisiti in tempo reale rispettivamente:

- spettro in energia del canale selezionato;
- mappa (numerica e grafica) in conteggi del rivelatore;
- mappa dei pixel attivi;
- istogramma di tutti i canali.

Nella sezione *Graph Options* si decidono le modalità di visualizzazione dei monitor grafici:

- selezione del pixel (pointer slide);

scala dei conteggi (lineare o logaritmica);

soglia in conteggi

(disattivando i pixel che contano di più si abbassa la soglia totale).

Tutte le preferenze associate a questa sezione possono essere cambiate durante l'acquisizione.

OUTPUT

Al termine dell'acquisizione viene salvato un file testo di header che contiene il nome del file comprensivo di path, numero di cicli letti, data/ora del termine dell'acquisizione e commento eventuale introdotto dall'utente sulle condizioni di misura.

Il nome di tale file (*measures.log*) è impostato di default dal programma e risiede nel direttorio Misure.

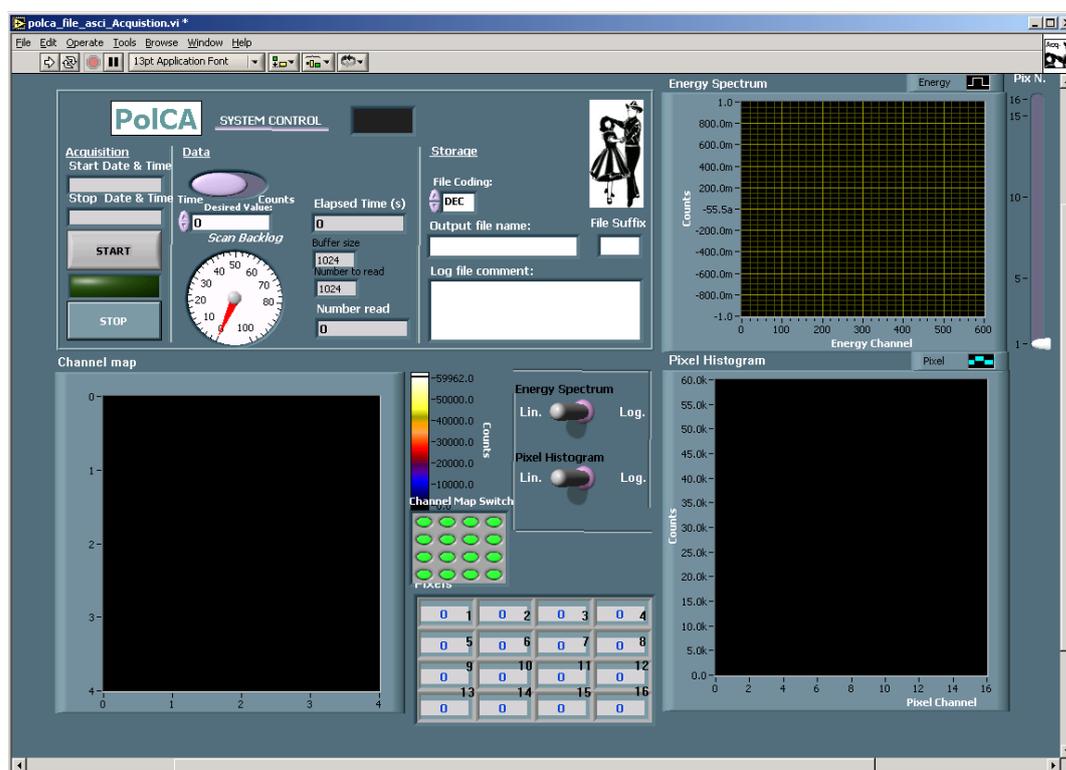


Fig. 25 Pannello frontale.

B.2.2 Diagramma

La descrizione seguente elenca nell'ordine di esecuzione i blocchi di lavoro costituenti il codice di acquisizione di Fig. 26. E' affidato al paragrafo *Dettagli software* l'approfondimento di alcune funzioni.

La sezione **(1)** imposta i parametri iniziali:

configura l'hardware TAKES in modalità acquisizione (**Nota 1**);

configura il protocollo (Fig. 28) con il VI DIO Config. (**Nota 2**);

configura la mappa dei colori scelta per la visualizzazione dei canali;

configura il path in cui salvare i file di output;

crea o apre il file di log sul quale aggiunge progressivamente tutte le misure fino a quando l'utente non cambia il nome del file;

crea o apre il file di misura.

Inizializza gli shift register del ciclo while relativi allo spettro di energia, alla mappa dei conteggi e all'istogramma a barre.

Avvia, nella sezione (2), il trasferimento dati con DIO Start, in modalità continua e legge il tempo di inizio della acquisizione.

Ciclicamente nella sezione (3):

- legge con DIO Read i dati;

- scrive l'output ascii su file (Nota 3) nella codifica selezionata;

- svuota il buffer;

- decodifica (Nota 4), nella sezione (4), i dati letti per la visualizzazione su schermo di:

 - spettro in energia;

 - mappa in conteggi dei pixel;

 - selezione dei pixel inattivi;

 - istogramma a barre dei canali;

- monitorizza, nella sezione (5) l'informazione scientifica di:

 - energia;

 - canali (istogramma e mappa);

- visualizza:

 - numero di letture;

 - stato del buffer;

 - tempo trascorso dall'inizio della misura.

Interrompe l'acquisizione, nella sezione (6),

- allo stop dell'utente;

- al raggiungimento dei parametri impostati

 - Counts o Time (pannello)

 - o Buffer size o Scan to read (diagramma).

Legge, nella sezione (7), il tempo di stop della acquisizione.

Scriva e salva il file log (Nota 5).

Riazzera lo stato della DIO.

Block Diagram

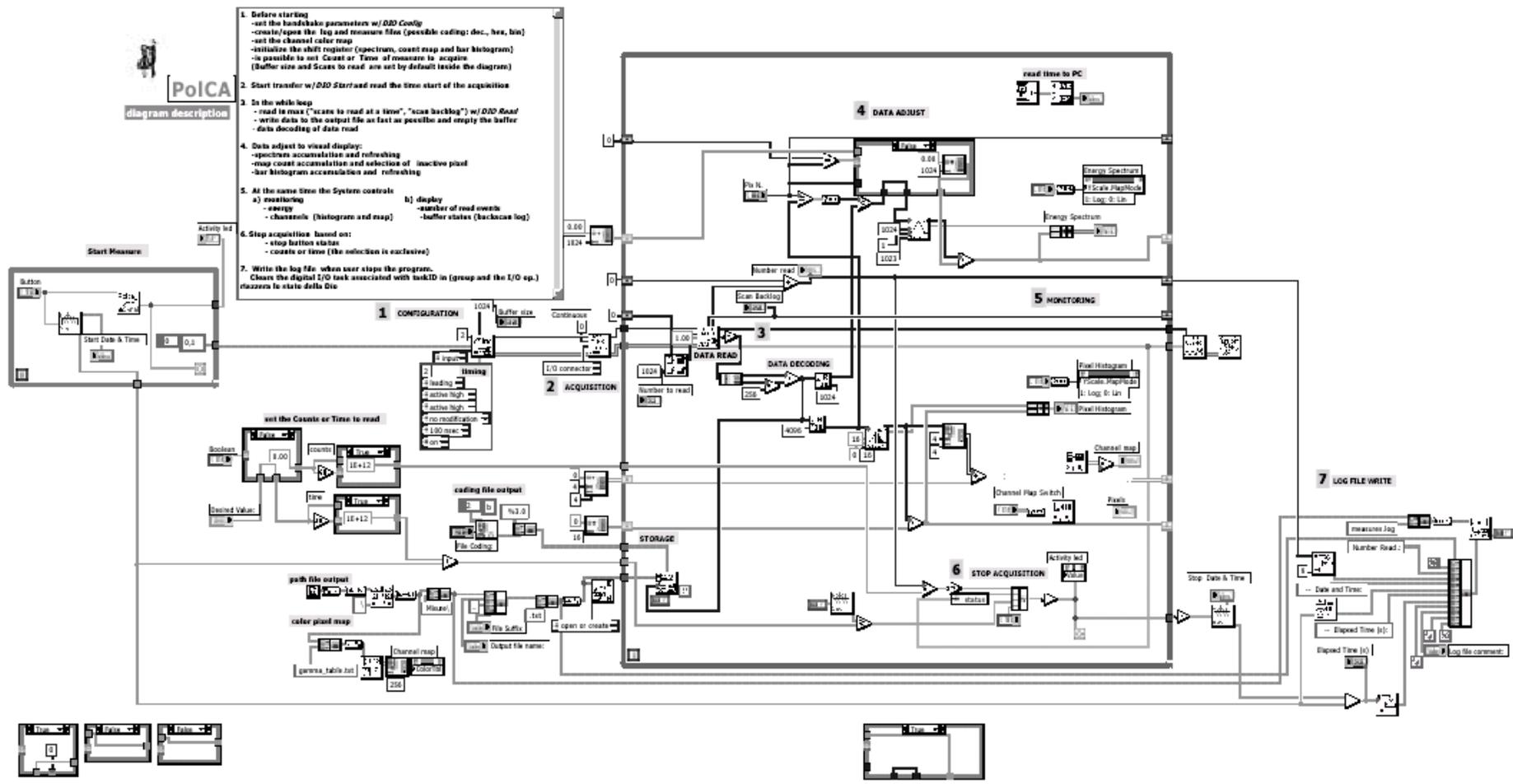


Fig.26 Diagramma a blocchi SW Acquisizione.

B.2.2.1 Dettagli software

Nota 1/Calibrazione HW

La calibrazione iniziale dell'elettronica TAKES viene comandata dalla CPU centrale via RS232. Il software contiene una subroutine (polca_rs232.vi) dedicata a tale scopo di cui si allega il diagramma, Fig.27, in cui è mostrata la sequenza dei comandi di RESET e START.

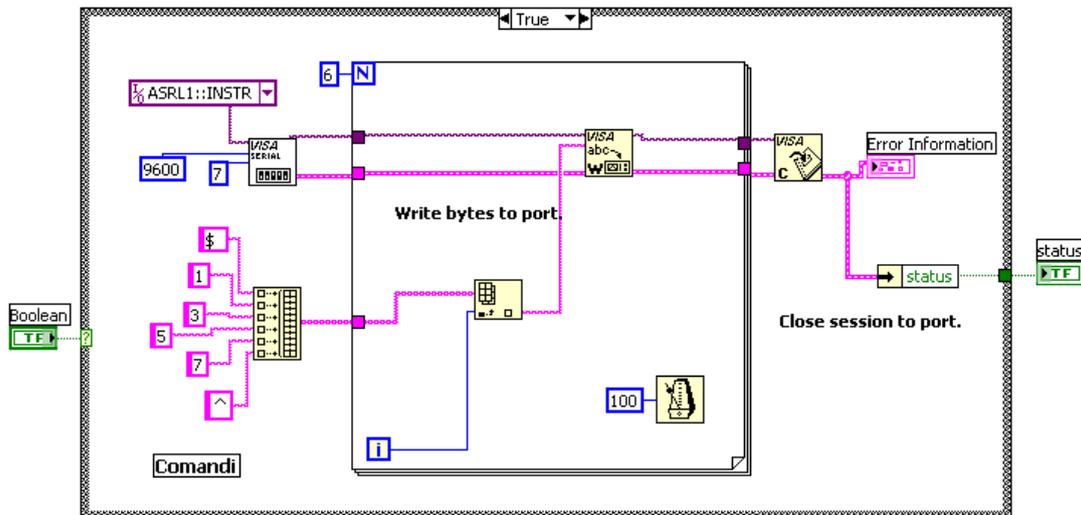


Fig. 27 Sequenza comandi di modalità acquisizione inviati all'elettronica TAKES.

Nota 2/Timing

La temporizzazione dei segnali Flag e ACK di Fig. 5 è impostata via SW tramite DIO Config di cui si allega la caratterizzazione. Il VI permette di impostare i parametri sul pannello relativo (Fig.28a) ma si è deciso di fissare, nel diagramma generale di PolCA_Acquisition, come default la configurazione adottata di cui si riporta il dettaglio software (Fig. 28b).

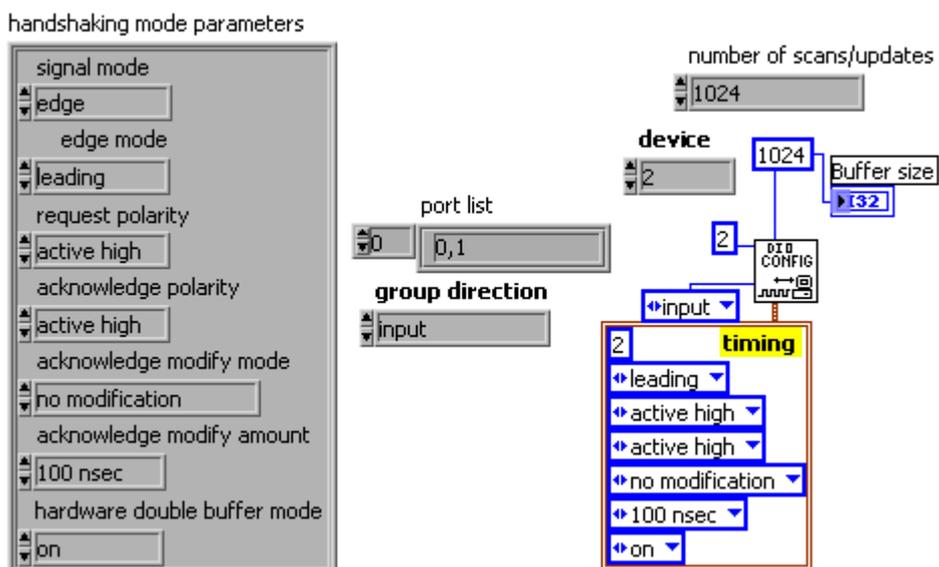


Fig. 28a/b DIO Config.

Nota 3/File Output

Il nome del file di misura è impostato dall'utente all'inizio di ogni acquisizione.

Il software aggiunge automaticamente i dati nel file.

Se il nome del file di output di una misura terminata non viene cambiato i dati dell'acquisizione successiva saranno aggiunti al file precedente.

Nota 4/Decodifica dei dati

Il VI DIO Read legge le parole in logica negata dal buffer interno e ritorna i dati letti in patterns. I dati in uscita sono distribuiti sulle porte 0 e 1 come mostrato in Fig. 29, rispettivamente:

DATO 0		DATO 1		.....	.....	DATO n	
Port 0	Port 1	Port 0	Port 1	.....	.....	Port 1	Port 1
-----	-----	-----	-----	-----	-----
LSB	MSB	LSB	MSB	.....	.....	MSB	MSB
8 bit	8 bit	8 bit	8 bit	.....	.....	8 bit	8 bit

Fig. 29 Distribuzione dei dati sulle porte 0 e 1.

La parte di Data decoding del SW è suddivisa in due sezioni principali nelle quali :

- a) frammenta il flusso di dati;
"maschera" per 256 tutti i dati della porta 1;
somma questi a quelli della porta 0 (vedi Fig.30);
trasferisce la parola ricostruita a 16 bit su file;

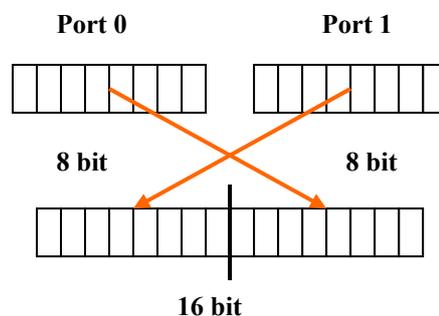


Fig.30 Ricostruzione della parola a 16 bit.

- b) estrae l'informazione relativa all'energia dai primi 10 bit
mascherando per 1024 (2^{10});
estrae il numero del pixel coinvolto dagli ultimi 4 bit *mascherando* per 4096 (2^{12}).

Nota 5/File log

Il file prevede le informazioni relative al path, nome file, n. di letture, data, tempo ed eventuali commenti introdotti dall'utente sulle condizioni di misura. Il file è scritto in ASCII ed è editabile.

Si riporta parte di un file log a titolo di esempio in Fig. 31.

F:\Users\milena\Polca\Misure\center_b_1.txt
Number Read.:105472 -- Date and Time: 04/07/2002 17:53:25
Thick 3.3 mm; bias 300 V, Eth=0.8, Pb 3 mm Beam E: 300 keV

F:\Users\milena\Polca\Misure\center_b_1.txt
Number Read.:229376 -- Date and Time: 04/07/2002 17:54:29
Thick 3.3 mm; bias 300 V, Eth=0.8, Pb 3 mm Beam E: 300 keV

Fig. 31 File log.

B.3 Polca Reproduction

B.3.1 Descrizione del programma

Il programma di riproduzione legge i file di misura prodotti da Polca_Acquisition e li visualizza sull'interfaccia grafica del pannello frontale. Come anticipato nel paragrafo relativo alla struttura del programma (Fig. 23), PolCA_Reproduction non prevede tutta la parte di configurazione dell'hardware, mantiene invece la medesima presentazione grafica ed il decoding dei dati.

B.3.1.1 Pannello frontale

Nel pannello frontale, versione *Reproduction*, mostrato in figura 32 e nelle figure da 17 a 20 è possibile impostare i parametri necessari all'esecuzione del programma e alla visualizzazione della misura selezionata.

INPUT

Nella sezione *Data* selezionare, tramite la finestra di dialogo, il file che si vuole riprodurre (il percorso su disco in cui viene cercata la misura è inserito automaticamente dal programma).

Scegliere se terminare l'acquisizione al raggiungimento del valore di Counts impostato. Se l'opzione è ignorata l'acquisizione termina quando viene premuto il bottone di STOP.

Nella sezione *Reproduction* avviare il programma con il bottone di START.

Durante tutta la durata dell'acquisizione resta acceso il led verde.

CONTROLLO

La sezione *System Control* visualizza i dati acquisiti durante la misura rispettivamente:

- spettro in energia del canale selezionato;
- mappa (numerica e grafica) in conteggi del rivelatore;
- mappa dei pixel attivi;
- istogramma di tutti i canali.

Nella sezione *Graph Options* si decidono le modalità di visualizzazione dei monitor grafici.

- Riproduzione dei dati in tempo reale o ritardato di una costante t modificabile sul pannello frontale.
- Selezione del pixel (pointer slide);

scala dei conteggi (lineare o logaritmica);

soglia in conteggi

(disattivando i pixel che contano di più si abbassa la soglia totale).

Tutte le preferenze associate a questa sezione possono essere cambiate durante l'acquisizione.

B.3.1.2 Diagramma

Il codice mostrato in figura 33 relativo all'interfaccia grafica prima descritta **(1)** permette, attraverso una finestra di dialogo, la ricerca e la selezione del file di misura desiderato.

Configura la mappa dei colori scelta per la visualizzazione dei canali.

Inizializza gli shift register del ciclo while relativi allo spettro di energia, alla mappa dei conteggi e all'istogramma a barre.

Riproduce la misura fino al raggiungimento del valore di End Of File o del conteggio impostato sul pannello frontale.

Ciclicamente:

legge **(2)**, i dati dal file selezionato in blocchi di 1000;

(questo valore è modificabile esclusivamente all'interno del diagramma);

decodifica **(3)** i dati letti per la visualizzazione **(4)** su schermo di:

spettro in energia;

mappa in conteggi dei pixel;

selezione dei pixel che si vuole rendere inattivi;

istogramma a barre dei canali

monitorizza **(5)** l'informazione scientifica di:

energia;

canali (istogramma e mappa)

visualizza

numero di letture.

Interrompe l'acquisizione **(6)**:

allo stop dell'utente;

al raggiungimento del conteggio desiderato se impostato.

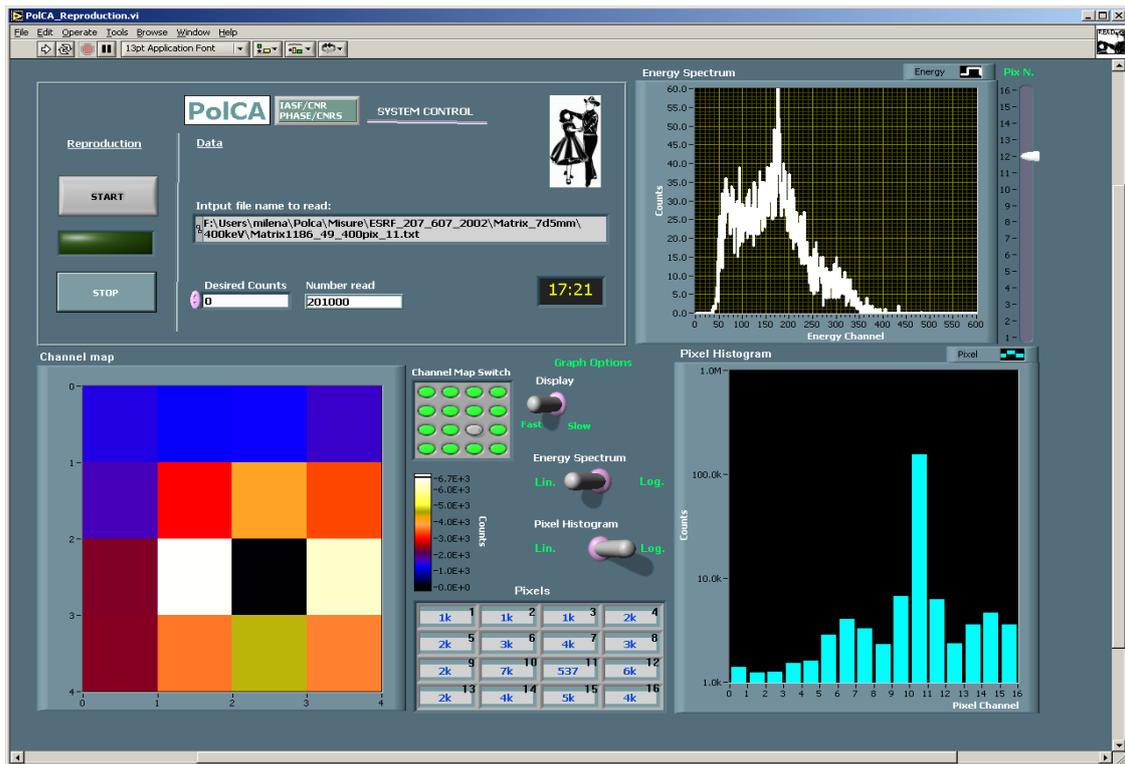


Fig.32 Pannello frontale SW Riproduzione.

Block Diagram

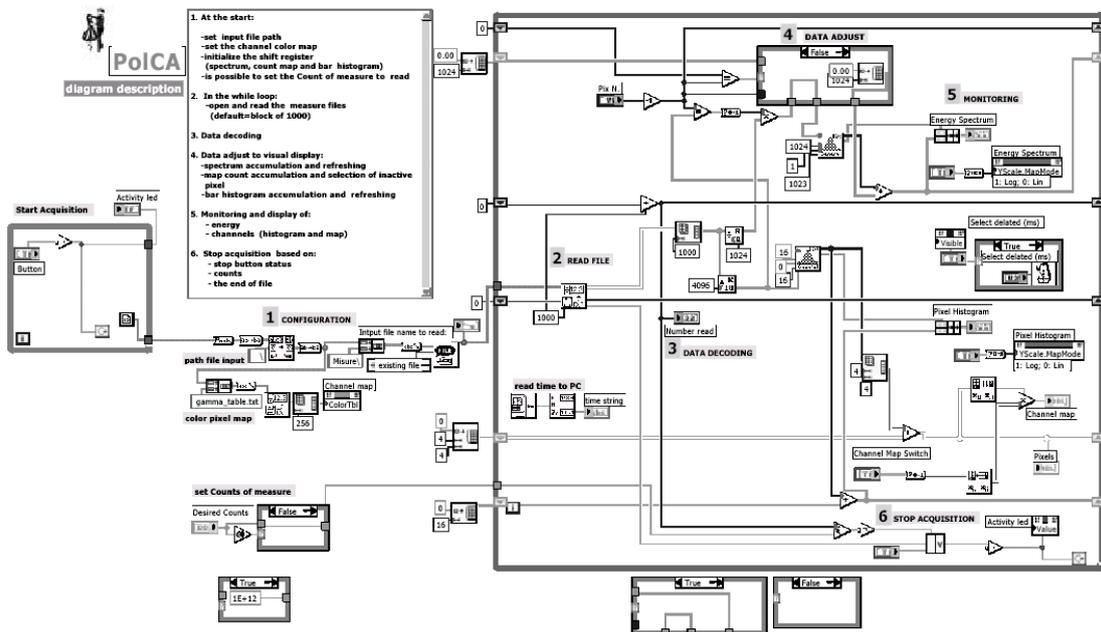


Fig.33 Diagramma a blocchi SW Riproduzione.

C Logbook misure ESRF

L'elenco delle misure è suddiviso in due distinti file di log rispettivamente, *Preliminary_test.log* relativo ai test di configurazione e definizione del setup di misura e *MatrixScanLog.log* comprensivo di tutte le scansioni effettuate sulle matrici. Di seguito sono riportati entrambi i file.

C.1 *Preliminary test.log*

F:\Users\milena\Polca\Misure\t030702_f.txt
Number Read.:1078272 -- Date and Time: 03/07/2002 15:01:22

F:\Users\milena\Polca\Misure\test_030702_g.txt
Number Read.:8867840 -- Date and Time: 03/07/2002 15:41:00

F:\Users\milena\Polca\Misure\test_030702_h.txt
Number Read.:856064 -- Date and Time: 03/07/2002 15:52:07

F:\Users\milena\Polca\Misure\test_030702_i.txt
Number Read.: 86016 -- Date and Time: 03/07/2002 15:53:37
eth=0.7

F:\Users\milena\Polca\Misure\ba133_1.txt
Number Read.:159702 -- Date and Time: 03/07/2002 16:21:57
Ba133, Eth=1, V=400, thick=4.8

F:\Users\milena\Polca\Misure\ba133_2.txt
Number Read.:106336 -- Date and Time: 03/07/2002 16:34:49
Ba133, Eth=1, V=300, thick=3.3

F:\Users\milena\Polca\Misure\ba133_2bis.txt
Number Read.:266240 -- Date and Time: 03/07/2002 16:37:07
Ba133, Eth=0.8, V=300, thick=3.3

F:\Users\milena\Polca\Misure\test_on_the_hutch_beside.txt
Number Read.:4152340 -- Date and Time: 03/07/2002 18:34:27
Detector was on the floor of the utch when the beam was on.

F:\Users\milena\Polca\Misure\test_on_the_hutch_3.txt
Number Read.:345088 -- Date and Time: 03/07/2002 19:08:43
same PSD condition as before. Beam ON

F:\Users\milena\Polca\Misure\test_on_the_hutch_3.txt
Number Read.:355328 -- Date and Time: 03/07/2002 20:20:33
same PSD condition as Test 2. Beam ON

F:\Users\milena\Polca\Misure\test_on_the_hutch_5.txt
Number Read.:482304 -- Date and Time: 03/07/2002 20:22:06
same PSD condition as Test 2. Beam ON, search beam 1

F:\Users\milena\Polca\Misure\test_on_the_hutch_6.txt
Number Read.:463872 -- Date and Time: 03/07/2002 20:23:59
same PSD condition as Test 2. Beam ON, search beam 2

F:\Users\milena\Polca\Misure\test_on_the_hutch_7.txt
Number Read.:370688 -- Date and Time: 03/07/2002 20:25:35
same PSD condition as Test 2. Beam OFF, search beam 2

F:\Users\milena\Polca\Misure\t030702_1.txt
Number Read.:651264 -- Date and Time: 03/07/2002 20:27:14
PSD as before, beam on

F:\Users\milena\Polca\Misure\cal0.txt
Number Read.: 77714 -- Date and Time: 03/07/2002 20:39:28

F:\Users\milena\Polca\Misure\cal1.txt
Number Read.:516544 -- Date and Time: 03/07/2002 20:40:36

F:\Users\milena\Polca\Misure\Cal2.txt
Number Read.:316416 -- Date and Time: 03/07/2002 20:45:32

F:\Users\milena\Polca\Misure\Cal3.txt
Number Read.:288768 -- Date and Time: 03/07/2002 20:48:41

F:\Users\milena\Polca\Misure\Cal4.txt
Number Read.:807936 -- Date and Time: 03/07/2002 20:50:21

F:\Users\milena\Polca\Misure\Cal5.txt
Number Read.:995328 -- Date and Time: 03/07/2002 20:52:24

F:\Users\milena\Polca\Misure\Cal6.txt
Number Read.:272384 -- Date and Time: 03/07/2002 20:54:35

F:\Users\milena\Polca\Misure\Cal7.txt
Number Read.:913408 -- Date and Time: 03/07/2002 20:55:41

F:\Users\milena\Polca\Misure\Cal8.txt
Number Read.:444416 -- Date and Time: 03/07/2002 20:57:14

F:\Users\milena\Polca\Misure\cal9.txt
Number Read.:612352 -- Date and Time: 03/07/2002 20:58:47

F:\Users\milena\Polca\Misure\cal10.txt
Number Read.:1264640 -- Date and Time: 03/07/2002 21:01:07

F:\Users\milena\Polca\Misure\cal11.txt
Number Read.:1613824 -- Date and Time: 03/07/2002 21:03:55

F:\Users\milena\Polca\Misure\cal12.txt
Number Read.:595968 -- Date and Time: 03/07/2002 21:06:53

F:\Users\milena\Polca\Misure\cal13.txt
Number Read.:336896 -- Date and Time: 03/07/2002 21:07:58

F:\Users\milena\Polca\Misure\cal14.txt
Number Read.:4096000 -- Date and Time: 03/07/2002 21:08:43

F:\Users\milena\Polca\Misure\cal15.txt
Number Read.:1597440 -- Date and Time: 03/07/2002 21:15:01

F:\Users\milena\Polca\Misure\cal16.txt
Number Read.:1002496 -- Date and Time: 03/07/2002 21:21:53

F:\Users\milena\Polca\Misure\cal17.txt
Number Read.:242688 -- Date and Time: 03/07/2002 21:24:41

F:\Users\milena\Polca\Misure\test_flat_cable.txt
Number Read.:822272 -- Date and Time: 03/07/2002 21:29:49

F:\Users\milena\Polca\Misure\test_flat_cable2.txt
Number Read.:241664 -- Date and Time: 03/07/2002 21:31:40

F:\Users\milena\Polca\Misure\test_flat_cable3.txt
Number Read.:674816 -- Date and Time: 03/07/2002 21:33:44

F:\Users\milena\Polca\Misure\Rot_0.txt
Number Read.: 0 -- Date and Time: 03/07/2002 21:46:28

F:\Users\milena\Polca\Misure\Rot_0.txt
Number Read.:746496 -- Date and Time: 03/07/2002 21:48:31

F:\Users\milena\Polca\Misure\Rot_1.txt
Number Read.:319488 -- Date and Time: 03/07/2002 21:51:32

F:\Users\milena\Polca\Misure\Rot_2.txt
Number Read.:546816 -- Date and Time: 03/07/2002 21:57:15

F:\Users\milena\Polca\Misure\Rot_3.txt
Number Read.:496640 -- Date and Time: 03/07/2002 21:59:18

F:\Users\milena\Polca\Misure\Rot_4.txt
Number Read.:936960 -- Date and Time: 03/07/2002 22:00:23

F:\Users\milena\Polca\Misure\Rot_5.txt
Number Read.:743424 -- Date and Time: 03/07/2002 22:01:53

F:\Users\milena\Polca\Misure\Rot_6.txt
Number Read.:563200 -- Date and Time: 03/07/2002 22:04:02

F:\Users\milena\Polca\Misure\Rot_7.txt
Number Read.:440320 -- Date and Time: 03/07/2002 22:04:53

F:\Users\milena\Polca\Misure\Rot_8.txt
Number Read.:477184 -- Date and Time: 03/07/2002 22:05:49

F:\Users\milena\Polca\Misure\Rot_9.txt
Number Read.:110592 -- Date and Time: 03/07/2002 22:09:16

F:\Users\milena\Polca\Misure\Rot_10.txt
Number Read.:184320 -- Date and Time: 03/07/2002 22:09:48

F:\Users\milena\Polca\Misure\Rot_11.txt
Number Read.:270336 -- Date and Time: 03/07/2002 22:11:23

F:\Users\milena\Polca\Misure\Rot_12.txt
Number Read.:480256 -- Date and Time: 03/07/2002 22:13:30

F:\Users\milena\Polca\Misure\Rot_13.txt
Number Read.:516096 -- Date and Time: 03/07/2002 22:14:39

F:\Users\milena\Polca\Misure\Rot_14.txt
Number Read.:452608 -- Date and Time: 03/07/2002 22:15:43

F:\Users\milena\Polca\Misure\Rot_15.txt
Number Read.:156672 -- Date and Time: 03/07/2002 22:17:07

F:\Users\milena\Polca\Misure\Rot_16.txt
Number Read.:133120 -- Date and Time: 03/07/2002 22:18:03

F:\Users\milena\Polca\Misure\Rot_17.txt
Number Read.:426900 -- Date and Time: 03/07/2002 22:27:27

F:\Users\milena\Polca\Misure\Rot_18.txt
Number Read.:150528 -- Date and Time: 03/07/2002 22:29:34

F:\Users\milena\Polca\Misure\Rot_19.txt
Number Read.:160768 -- Date and Time: 03/07/2002 22:33:35

F:\Users\milena\Polca\Misure\Rot_20.txt
Number Read.:116736 -- Date and Time: 03/07/2002 22:34:59

F:\Users\milena\Polca\Misure\Rot_21.txt
Number Read.:114688 -- Date and Time: 03/07/2002 22:35:45

F:\Users\milena\Polca\Misure\up_0.txt
Number Read.:103424 -- Date and Time: 04/07/2002 00:08:11

F:\Users\milena\Polca\Misure\up_0.txt
Number Read.: 20798 -- Date and Time: 04/07/2002 00:08:42

F:\Users\milena\Polca\Misure\up_1.txt
Number Read.:1184768 -- Date and Time: 04/07/2002 00:09:22
PSD is moved up

F:\Users\milena\Polca\Misure\up_2.txt
Number Read.:719872 -- Date and Time: 04/07/2002 00:12:05
PSD is moved up

F:\Users\milena\Polca\Misure\up_3.txt
Number Read.: 83968 -- Date and Time: 04/07/2002 00:13:15
PSD is moved up

F:\Users\milena\Polca\Misure\up_4.txt
Number Read.:288768 -- Date and Time: 04/07/2002 00:13:34
PSD is moved up

F:\Users\milena\Polca\Misure\up_5.txt
Number Read.:613376 -- Date and Time: 04/07/2002 00:14:18
PSD is moved up

F:\Users\milena\Polca\Misure\up_6.txt
Number Read.:366592 -- Date and Time: 04/07/2002 00:15:25
PSD is moved up

F:\Users\milena\Polca\Misure\up_7.txt
Number Read.:420864 -- Date and Time: 04/07/2002 00:16:11
PSD is moved up

F:\Users\milena\Polca\Misure\up_8.txt
Number Read.:313344 -- Date and Time: 04/07/2002 00:17:18
PSD is moved up

F:\Users\milena\Polca\Misure\up_9.txt
Number Read.:206848 -- Date and Time: 04/07/2002 00:17:54
PSD is moved up

F:\Users\milena\Polca\Misure\up_10.txt
Number Read.:101376 -- Date and Time: 04/07/2002 00:18:33
PSD is moved up

F:\Users\milena\Polca\Misure\up_11.txt
Number Read.:162816 -- Date and Time: 04/07/2002 00:18:57
PSD is moved up

F:\Users\milena\Polca\Misure\up_12.txt
Number Read.:133120 -- Date and Time: 04/07/2002 00:19:28
PSD is moved up

F:\Users\milena\Polca\Misure\up_13.txt
Number Read.:109568 -- Date and Time: 04/07/2002 00:20:04
PSD is moved up

F:\Users\milena\Polca\Misure\up_14.txt
Number Read.: 88064 -- Date and Time: 04/07/2002 00:20:40
PSD is moved up

F:\Users\milena\Polca\Misure\up_15.txt
Number Read.: 55296 -- Date and Time: 04/07/2002 00:21:04
PSD is moved up

F:\Users\milena\Polca\Misure\up_16.txt
Number Read.: 54272 -- Date and Time: 04/07/2002 00:21:21
PSD is moved up

F:\Users\milena\Polca\Misure\up_17.txt
Number Read.:234496 -- Date and Time: 04/07/2002 00:21:39
PSD is moved up

F:\Users\milena\Polca\Misure\up_18.txt
Number Read.:325632 -- Date and Time: 04/07/2002 00:22:31
PSD is moved up

F:\Users\milena\Polca\Misure\up_19.txt
Number Read.:5007360 -- Date and Time: 04/07/2002 00:23:20
PSD is moved up

F:\Users\milena\Polca\Misure\cen_1.txt
Number Read.:2008064 -- Date and Time: 04/07/2002 10:58:04
Centering the PSD, 300 V bias, thick=3.3 mm, Eth=0.8

F:\Users\milena\Polca\Misure\cen_1.txt
Number Read.:1025024 -- Date and Time: 04/07/2002 11:02:05
Centering the PSD, 300 V bias, thick=3.3 mm, Eth=0.8

F:\Users\milena\Polca\Misure\cen_2.txt
Number Read.:123904 -- Date and Time: 04/07/2002 11:04:07
Centering the PSD, 300 V bias, thick=3.3 mm, Eth=0.8, 45 deg rotation

F:\Users\milena\Polca\Misure\cen_3.txt
Number Read.:2212864 -- Date and Time: 04/07/2002 11:11:20
Recentring. No change

F:\Users\milena\Polca\Misure\cen_4.txt
Number Read.:1017856 -- Date and Time: 04/07/2002 11:16:32
90 deg rotation

F:\Users\milena\Polca\Misure\cen_4.txt
Number Read.:372736 -- Date and Time: 04/07/2002 11:18:28
90 deg rotation

F:\Users\milena\Polca\Misure\cen_5.txt
Number Read.:3043328 -- Date and Time: 04/07/2002 11:27:59
New Center after 90 deg rotation

F:\Users\milena\Polca\Misure\cen_6.txt
Number Read.:139294 -- Date and Time: 04/07/2002 11:38:26
beam off

F:\Users\milena\Polca\Misure\cen_7.txt
Number Read.:2472818 -- Date and Time: 04/07/2002 11:40:19
beam off - about 17 minuts

F:\Users\milena\Polca\Misure\center_a_1.txt
Number Read.:2619392 -- Date and Time: 04/07/2002 15:58:53
3.3 mm; 1 mm lead, eth=0.8, bias 300 V

F:\Users\milena\Polca\Misure\center_b_1.txt
Number Read.:3614720 -- Date and Time: 04/07/2002 17:42:20
Thick 3.3 mm; bias 300 V, Eth=0.8, Pb 3 mm
Beam E: 300 keV

F:\Users\milena\Polca\Misure\center_b_1.txt
Number Read.:572416 -- Date and Time: 04/07/2002 17:47:32
Thick 3.3 mm; bias 300 V, Eth=0.8, Pb 3 mm
Beam E: 300 keV

F:\Users\milena\Polca\Misure\center_b_1.txt
Number Read.:466944 -- Date and Time: 04/07/2002 17:48:36
Thick 3.3 mm; bias 300 V, Eth=0.8, Pb 3 mm
Beam E: 300 keV

F:\Users\milena\Polca\Misure\center_b_1.txt
Number Read.:249856 -- Date and Time: 04/07/2002 17:49:18
Thick 3.3 mm; bias 300 V, Eth=0.8, Pb 3 mm
Beam E: 300 keV

F:\Users\milena\Polca\Misure\center_b_1.txt
Number Read.:234496 -- Date and Time: 04/07/2002 17:49:43
Thick 3.3 mm; bias 300 V, Eth=0.8, Pb 3 mm
Beam E: 300 keV

F:\Users\milena\Polca\Misure\center_b_1.txt
Number Read.: 83968 -- Date and Time: 04/07/2002 17:50:07
Thick 3.3 mm; bias 300 V, Eth=0.8, Pb 3 mm
Beam E: 300 keV

F:\Users\milena\Polca\Misure\center_b_1.txt
Number Read.:148480 -- Date and Time: 04/07/2002 17:50:34
Thick 3.3 mm; bias 300 V, Eth=0.8, Pb 3 mm
Beam E: 300 keV

F:\Users\milena\Polca\Misure\center_b_1.txt
Number Read.: 93184 -- Date and Time: 04/07/2002 17:50:58
Thick 3.3 mm; bias 300 V, Eth=0.8, Pb 3 mm
Beam E: 300 keV

F:\Users\milena\Polca\Misure\center_b_1.txt
Number Read.: 79872 -- Date and Time: 04/07/2002 17:51:26
Thick 3.3 mm; bias 300 V, Eth=0.8, Pb 3 mm
Beam E: 300 keV

F:\Users\milena\Polca\Misure\center_b_1.txt
Number Read.: 65536 -- Date and Time: 04/07/2002 17:51:37
Thick 3.3 mm; bias 300 V, Eth=0.8, Pb 3 mm
Beam E: 300 keV

F:\Users\milena\Polca\Misure\center_b_1.txt
Number Read.:184320 -- Date and Time: 04/07/2002 17:51:51
Thick 3.3 mm; bias 300 V, Eth=0.8, Pb 3 mm
Beam E: 300 keV

F:\Users\milena\Polca\Misure\center_b_1.txt
Number Read.: 81920 -- Date and Time: 04/07/2002 17:52:12
Thick 3.3 mm; bias 300 V, Eth=0.8, Pb 3 mm
Beam E: 300 keV

F:\Users\milena\Polca\Misure\center_b_1.txt
Number Read.:104448 -- Date and Time: 04/07/2002 17:52:38
Thick 3.3 mm; bias 300 V, Eth=0.8, Pb 3 mm
Beam E: 300 keV

F:\Users\milena\Polca\Misure\center_b_1.txt
Number Read.: 91136 -- Date and Time: 04/07/2002 17:52:57
Thick 3.3 mm; bias 300 V, Eth=0.8, Pb 3 mm
Beam E: 300 keV

F:\Users\milena\Polca\Misure\center_b_1.txt
Number Read.: 41984 -- Date and Time: 04/07/2002 17:53:07
Thick 3.3 mm; bias 300 V, Eth=0.8, Pb 3 mm
Beam E: 300 keV

F:\Users\milena\Polca\Misure\center_b_1.txt
Number Read.: 75776 -- Date and Time: 04/07/2002 17:53:15
Thick 3.3 mm; bias 300 V, Eth=0.8, Pb 3 mm
Beam E: 300 keV

F:\Users\milena\Polca\Misure\center_b_1.txt
Number Read.:105472 -- Date and Time: 04/07/2002 17:53:25
Thick 3.3 mm; bias 300 V, Eth=0.8, Pb 3 mm
Beam E: 300 keV

F:\Users\milena\Polca\Misure\center_b_1.txt
Number Read.:229376 -- Date and Time: 04/07/2002 17:54:29
Thick 3.3 mm; bias 300 V, Eth=0.8, Pb 3 mm
Beam E: 300 keV

F:\Users\milena\Polca\Misure\center_b_2.txt
Number Read.:751616 -- Date and Time: 04/07/2002 17:54:57
Thick 3.3 mm; bias 300 V, Eth=0.8, Pb 3 mm
Beam E: 300 keV

F:\Users\milena\Polca\Misure\center_b_2.txt
Number Read.:175104 -- Date and Time: 04/07/2002 17:56:02
Thick 3.3 mm; bias 300 V, Eth=0.8, Pb 3 mm
Beam E: 300 keV

F:\Users\milena\Polca\Misure\center_b_2.txt
Number Read.:118784 -- Date and Time: 04/07/2002 17:56:20
Thick 3.3 mm; bias 300 V, Eth=0.8, Pb 3 mm
Beam E: 300 keV

F:\Users\milena\Polca\Misure\center_b_3.txt
Number Read.:2010112 -- Date and Time: 04/07/2002 17:56:40
Thick 3.3 mm; bias 300 V, Eth=0.8, Pb 3 mm
Beam E: 300 keV

C.2 MatrixScanLog.log

Matrice 1167-11 Spessore 3.4 mm Energia 100 keV Angolo di rotazione 0 gradi

F:\Users\milena\Polca\Misure\scan_1.txt
Number Read.:3262464 -- Date and Time: 04/07/2002 00:31:33
centering pixel 1 Energy 100 KeV Matrice 3.4 mm 1mm Pb

F:\Users\milena\Polca\Misure\scan_2.txt
Number Read.:3415040 -- Date and Time: 04/07/2002 00:49:30
centering pixel 2

F:\Users\milena\Polca\Misure\scan_3.txt
Number Read.:3346432 -- Date and Time: 04/07/2002 00:56:13
centering pixel 3

F:\Users\milena\Polca\Misure\scan_4.txt
Number Read.:3266560 -- Date and Time: 04/07/2002 01:02:14
centering pixel 4

F:\Users\milena\Polca\Misure\scan_5.txt
Number Read.:3395584 -- Date and Time: 04/07/2002 01:07:41
centering pixel 8

F:\Users\milena\Polca\Misure\scan_6.txt
Number Read.:3372032 -- Date and Time: 04/07/2002 01:14:24
centering pixel 7

F:\Users\milena\Polca\Misure\scan_7.txt
Number Read.:3396608 -- Date and Time: 04/07/2002 01:19:42
centering pixel 6

F:\Users\milena\Polca\Misure\scan_8.txt
Number Read.:3386368 -- Date and Time: 04/07/2002 01:25:24
centering pixel 5

F:\Users\milena\Polca\Misure\scan_9.txt
Number Read.:3475456 -- Date and Time: 04/07/2002 01:31:13
centering pixel 9

F:\Users\milena\Polca\Misure\scan_10.txt
Number Read.:3467264 -- Date and Time: 04/07/2002 01:36:38
centering pixel 10

F:\Users\milena\Polca\Misure\scan_11.txt
Number Read.:3558400 -- Date and Time: 04/07/2002 01:42:30
centering pixel 11

F:\Users\milena\Polca\Misure\scan_12.txt
Number Read.:3458048 -- Date and Time: 04/07/2002 01:48:32
centering pixel 12

F:\Users\milena\Polca\Misure\scan_13.txt
Number Read.:3400704 -- Date and Time: 04/07/2002 01:54:09
centering pixel 16

F:\Users\milena\Polca\Misure\scan_14.txt
Number Read.:3315712 -- Date and Time: 04/07/2002 02:00:04
centering pixel 15

F:\Users\milena\Polca\Misure\scan_15.txt
Number Read.:3334144 -- Date and Time: 04/07/2002 02:05:41
centering pixel 14

F:\Users\milena\Polca\Misure\scan_16.txt
Number Read.:7712768 -- Date and Time: 04/07/2002 02:11:24
centering pixel 13

F:\Users\milena\Polca\Misure\scan_17.txt
Number Read.:7733248 -- Date and Time: 04/07/2002 02:29:21
centering pixel 13 - 20 mm Al as absorber

F:\Users\milena\Polca\Misure\scan_18.txt
Number Read.:3364864 -- Date and Time: 04/07/2002 02:43:38
centering pixel 13 - 1 mm Pb in front of the slit

F:\Users\milena\Polca\Misure\scan_19.txt
Number Read.:3324928 -- Date and Time: 04/07/2002 02:51:08
centering pixel 13 - no adsorber

Matrice 1167-11 Spessore 3.4 mm Energia 300 keV Angolo di rotazione 0 gradi

Step 3) Scansione completa del rivelatore

F:\Users\milena\Polca\Misure\scan300_1.txt
Number Read.:7658496 -- Date and Time: 04/07/2002 18:03:27
Thick 3.3 mm; bias 300 V, Eth=0.8, Pb 3 mm
Beam E: 300 keV

F:\Users\milena\Polca\Misure\scan300_2.txt
Number Read.:3548160 -- Date and Time: 04/07/2002 18:14:48
Thick 3.3 mm; bias 300 V, Eth=0.8, Pb 3 mm
Beam E: 300 keV, pix=2

F:\Users\milena\Polca\Misure\scan300_3.txt
Number Read.: 26624 -- Date and Time: 04/07/2002 18:21:02
Thick 3.3 mm; bias 300 V, Eth=0.8, Pb 3 mm
Beam E: 300 keV, pix=2

F:\Users\milena\Polca\Misure\scan300_3b.txt
Number Read.:3816448 -- Date and Time: 04/07/2002 18:21:12
Thick 3.3 mm; bias 300 V, Eth=0.8, Pb 3 mm
Beam E: 300 keV, pix=2

F:\Users\milena\Polca\Misure\scan300_3b.txt
Number Read.:3696640 -- Date and Time: 04/07/2002 18:26:47
Thick 3.3 mm; bias 300 V, Eth=0.8, Pb 3 mm
Beam E: 300 keV, pix=2

F:\Users\milena\Polca\Misure\scan300_5.txt
Number Read.:3632128 -- Date and Time: 04/07/2002 18:32:37
Thick 3.3 mm; bias 300 V, Eth=0.8, Pb 3 mm
Beam E: 300 keV, pix=5

F:\Users\milena\Polca\Misure\scan300_6.txt
Number Read.:3673088 -- Date and Time: 04/07/2002 18:38:02
Thick 3.3 mm; bias 300 V, Eth=0.8, Pb 3 mm
Beam E: 300 keV, pix=7

F:\Users\milena\Polca\Misure\scan300_7.txt
Number Read.: 33792 -- Date and Time: 04/07/2002 18:43:34
Thick 3.3 mm; bias 300 V, Eth=0.8, Pb 3 mm
Beam E: 300 keV, pix=6

F:\Users\milena\Polca\Misure\scan300_7b.txt
Number Read.:1549312 -- Date and Time: 04/07/2002 18:43:49
Thick 3.3 mm; bias 300 V, Eth=0.8, Pb 3 mm
Beam E: 300 keV, pix=6

F:\Users\milena\Polca\Misure\scan300_8.txt
Number Read.:3672064 -- Date and Time: 04/07/2002 18:49:34
Thick 3.3 mm; bias 300 V, Eth=0.8, Pb 3 mm
Beam E: 300 keV, pix=5

F:\Users\milena\Polca\Misure\scan300_9.txt
Number Read.:4324352 -- Date and Time: 04/07/2002 18:54:56
Thick 3.3 mm; bias 300 V, Eth=0.8, Pb 3 mm
Beam E: 300 keV, pix=9

F:\Users\milena\Polca\Misure\scan300_10.txt
Number Read.:4596736 -- Date and Time: 04/07/2002 19:01:00
Thick 3.3 mm; bias 300 V, Eth=0.8, Pb 3 mm
Beam E: 300 keV, pix=10

F:\Users\milena\Polca\Misure\scan300_11.txt
Number Read.:373760 -- Date and Time: 04/07/2002 19:06:33
Thick 3.3 mm; bias 300 V, Eth=0.8, Pb 3 mm
Beam E: 300 keV, pix=11

F:\Users\milena\Polca\Misure\scan300_11b.txt
Number Read.:4838400 -- Date and Time: 02/01/1904 22:19:50 -- Elapsed
Time (s): 311
same as before

F:\Users\milena\Polca\Misure\scan300_12.txt
Number Read.:3585024 -- Date and Time: 02/01/1904 22:26:52 -- Elapsed
Time (s): 301
same as before pix 8

F:\Users\milena\Polca\Misure\scan300_12.txt
Number Read.:3586048 -- Date and Time: 02/01/1904 22:32:31 -- Elapsed
Time (s): 300
same as before pix 8

F:\Users\milena\Polca\Misure\scan300_14.txt
Number Read.:3651584 -- Date and Time: 02/01/1904 22:38:12 -- Elapsed
Time (s): 301
same as before pix15

F:\Users\milena\Polca\Misure\scan300_15.txt
Number Read.:3547136 -- Date and Time: 02/01/1904 22:43:56 -- Elapsed
Time (s): 301
same as before pix14

F:\Users\milena\Polca\Misure\scan300_16.txt
Number Read.:8005632 -- Date and Time: 02/01/1904 22:49:27 -- Elapsed
Time (s): 601
same as before pix13

Step 4) Rotazione del rivelatore di 90 gradi
Step 2) Spostamento del fascio sul primo pixel del rivelatore (Pixel 1)
Step 1) Centratatura

F:\Users\milena\Polca\Misure\center300_1.txt
Number Read.:5064704 -- Date and Time: 02/01/1904 23:12:17 -- Elapsed
Time (s): 376
centering after a 90 deg rotation

F:\Users\milena\Polca\Misure\center300_1.txt
Number Read.:1218560 -- Date and Time: 02/01/1904 23:19:44 -- Elapsed
Time (s): 198
centering after a 90 deg rotation

F:\Users\milena\Polca\Misure\center300_3.txt

Number Read.:1949696 -- Date and Time: 02/01/1904 23:23:25 -- Elapsed
Time (s): 307
centering after a 90 deg rotation; pix 1

F:\Users\milena\Polca\Misure\center300_3.txt
Number Read.:220160 -- Date and Time: 02/01/1904 23:29:45 -- Elapsed
Time (s): 20
centering after a 90 deg rotation; pix 1

Step 3) Scansione completa del rivelatore

F:\Users\milena\Polca\Misure\scan300rot_1.txt
Number Read.:7089152 -- Date and Time: 02/01/1904 23:31:40 -- Elapsed
Time (s): 610
pixel 1; rotated 90 deg as last measure

F:\Users\milena\Polca\Misure\scan300rot_2.txt
Number Read.:4258816 -- Date and Time: 02/01/1904 23:43:18 -- Elapsed
Time (s): 331
pixel 2

F:\Users\milena\Polca\Misure\scan300rot_3.txt
Number Read.:4110336 -- Date and Time: 02/01/1904 23:51:53 -- Elapsed
Time (s): 300
pixel 3

F:\Users\milena\Polca\Misure\scan300rot_4.txt
Number Read.:4986880 -- Date and Time: 02/01/1904 23:57:58 -- Elapsed
Time (s): 301
pixel 4

F:\Users\milena\Polca\Misure\scan300rot_5.txt
Number Read.:119808 -- Date and Time: 03/01/1904 00:04:39 -- Elapsed
Time (s): 12
pixel 8

F:\Users\milena\Polca\Misure\scan300rot_5b.txt
Number Read.:3752960 -- Date and Time: 03/01/1904 00:05:05 -- Elapsed
Time (s): 302
pixel 8

F:\Users\milena\Polca\Misure\scan300rot_6.txt
Number Read.:4019200 -- Date and Time: 03/01/1904 00:12:02 -- Elapsed
Time (s): 301
pixel 7

F:\Users\milena\Polca\Misure\scan300rot_7.txt
Number Read.:3825664 -- Date and Time: 03/01/1904 00:18:20 -- Elapsed
Time (s): 301
pixel 6

F:\Users\milena\Polca\Misure\scan300rot_8.txt
Number Read.:3231744 -- Date and Time: 03/01/1904 00:26:59 -- Elapsed
Time (s): 304
pixel 5

F:\Users\milena\Polca\Misure\scan300rot_9.txt
Number Read.:4173824 -- Date and Time: 03/01/1904 00:33:21 -- Elapsed
Time (s): 308
pixel 10

F:\Users\milena\Polca\Misure\scan300rot_10.txt
Number Read.:4580352 -- Date and Time: 03/01/1904 00:39:30 -- Elapsed
Time (s): 303
pixel 10

F:\Users\milena\Polca\Misure\scan300rot_11.txt
Number Read.: 9216 -- Date and Time: 03/01/1904 00:45:00 -- Elapsed
Time (s): 2
pixel 11

F:\Users\milena\Polca\Misure\scan300rot_11b.txt
Number Read.:4131840 -- Date and Time: 03/01/1904 00:45:18 -- Elapsed
Time (s): 301
pixel 11

F:\Users\milena\Polca\Misure\scan300rot_12.txt
Number Read.:5259264 -- Date and Time: 03/01/1904 00:51:10 -- Elapsed
Time (s): 301
pixel 12

F:\Users\milena\Polca\Misure\scan300rot_13.txt
Number Read.:7394304 -- Date and Time: 03/01/1904 00:57:27 -- Elapsed
Time (s): 601
pixel 16

F:\Users\milena\Polca\Misure\scan300rot_14.txt
Number Read.:3939328 -- Date and Time: 03/01/1904 01:08:42 -- Elapsed
Time (s): 301
pixel 15

F:\Users\milena\Polca\Misure\scan300rot_15.txt
Number Read.:4350976 -- Date and Time: 03/01/1904 01:14:54 -- Elapsed
Time (s): 301
pixel 14

**Matrice 1186-49 Spessore 7.5 mm
Energia 300 keV Angolo di rotazione 0 gradi**

Step 1) Centratatura

F:\Users\milena\Polca\Misure\center300_b_1.txt
Number Read.:2000896 -- Date and Time: 02/01/1904 02:25:48 -- Elapsed
Time (s): 164
CdTe thick 7.5 mm, beam 300 keV, lead 3 mm, Bias 750 V

F:\Users\milena\Polca\Misure\center300_b_1.txt
Number Read.:107520 -- Date and Time: 02/01/1904 02:34:57 -- Elapsed
Time (s): 10
CdTe thick 7.5 mm, beam 300 keV, lead 3 mm, Bias 750 V

F:\Users\milena\Polca\Misure\center300_b_1.txt
Number Read.:223232 -- Date and Time: 02/01/1904 02:37:02 -- Elapsed
Time (s): 23
CdTe thick 7.5 mm, beam 300 keV, lead 3 mm, Bias 750 V

Step 3) Scansione completa del rivelatore

F:\Users\milena\Polca\Misure\scan300_75_1.txt
Number Read.:2000896 -- Date and Time: 02/01/1904 02:39:41 -- Elapsed
Time (s): 199
CdTe thick 7.5 mm, beam 300 keV, lead 3 mm, Bias 750 V

F:\Users\milena\Polca\Misure\scan300_75_1.txt
Number Read.:2000896 -- Date and Time: 02/01/1904 02:43:05 -- Elapsed
Time (s): 198
CdTe thick 7.5 mm, beam 300 keV, lead 3 mm, Bias 750 V

F:\Users\milena\Polca\Misure\scan300_75_1.txt
Number Read.:2000896 -- Date and Time: 02/01/1904 02:46:27 -- Elapsed
Time (s): 205
CdTe thick 7.5 mm, beam 300 keV, lead 3 mm, Bias 750 V

F:\Users\milena\Polca\Misure\scan300_75_2.txt
Number Read.:2000896 -- Date and Time: 02/01/1904 02:50:57 -- Elapsed
Time (s): 197
CdTe thick 7.5 mm, beam 300 keV, lead 3 mm, Bias 750 V, pix 2

F:\Users\milena\Polca\Misure\scan300_75_2.txt
Number Read.: 67584 -- Date and Time: 02/01/1904 02:55:03 -- Elapsed
Time (s): 8
CdTe thick 7.5 mm, beam 300 keV, lead 3 mm, Bias 750 V, pix 2

F:\Users\milena\Polca\Misure\scan300_75_2b.txt
Number Read.:3088384 -- Date and Time: 02/01/1904 02:55:27 -- Elapsed
Time (s): 301
CdTe thick 7.5 mm, beam 300 keV, lead 3 mm, Bias 750 V, pix 2

F:\Users\milena\Polca\Misure\scan300_75b_1.txt
Number Read.:6621184 -- Date and Time: 02/01/1904 03:13:48 -- Elapsed
Time (s): 673
see 75 -1

F:\Users\milena\Polca\Misure\scan300_75_2b.txt
Number Read.:4724736 -- Date and Time: 02/01/1904 03:28:37 -- Elapsed
Time (s): 424
see 75 -1, pixel 2, Eth =0.5 (from 1b)

F:\Users\milena\Polca\Misure\scan300_75_3b.txt
Number Read.:3347456 -- Date and Time: 02/01/1904 03:36:19 -- Elapsed
Time (s): 304
see 75 -1, pixel 3, Eth =0.5 (from 1b)

F:\Users\milena\Polca\Misure\scan300_75_4b.txt
Number Read.:4023296 -- Date and Time: 02/01/1904 03:41:57 -- Elapsed
Time (s): 352
see 75 -1, pixel 4, Eth =0.5 (from 1b)

F:\Users\milena\Polca\Misure\scan300_75_5b.txt
Number Read.:3527680 -- Date and Time: 02/01/1904 03:48:34 -- Elapsed
Time (s): 320
see 75 -1, pixel 8, Eth =0.5 (from 1b)

F:\Users\milena\Polca\Misure\scan300_75_6b.txt
Number Read.:3337216 -- Date and Time: 02/01/1904 03:54:35 -- Elapsed
Time (s): 301
see 75 -1, pixel 7, Eth =0.5 (from 1b)

F:\Users\milena\Polca\Misure\scan300_75_6b.txt
Number Read.: 7168 -- Date and Time: 02/01/1904 04:00:21 -- Elapsed
Time (s): 2
see 75 -1, pixel 7, Eth =0.5 (from 1b)

F:\Users\milena\Polca\Misure\scan300_75_7b.txt
Number Read.:3472384 -- Date and Time: 02/01/1904 04:00:32 -- Elapsed
Time (s): 314
see 75 -1, pixel 6, Eth =0.5 (from 1b)

F:\Users\milena\Polca\Misure\scan300_75_8b.txt
Number Read.:3340288 -- Date and Time: 02/01/1904 04:06:28 -- Elapsed
Time (s): 304
see 75 -1, pixel 5, Eth =0.5 (from 1b)

F:\Users\milena\Polca\Misure\scan300_75_9b.txt
Number Read.:3308544 -- Date and Time: 02/01/1904 04:12:11 -- Elapsed
Time (s): 301
see 75 -1, pixel 9, Eth =0.5 (from 1b)

F:\Users\milena\Polca\Misure\scan300_75_10b.txt
Number Read.:3464192 -- Date and Time: 02/01/1904 04:18:14 -- Elapsed
Time (s): 302
see 75 -1, pixel 10, Eth =0.5 (from 1b)

F:\Users\milena\Polca\Misure\scan300_75_11b.txt
Number Read.:3347456 -- Date and Time: 02/01/1904 04:23:55 -- Elapsed
Time (s): 302
see 75 -1, pixel 11, Eth =0.5 (from 1b)

F:\Users\milena\Polca\Misure\scan300_75_12b.txt
Number Read.:3276800 -- Date and Time: 02/01/1904 04:29:38 -- Elapsed
Time (s): 299
see 75 -1, pixel 12, Eth =0.5 (from 1b)

F:\Users\milena\Polca\Misure\scan300_75_13b.txt
Number Read.:3265536 -- Date and Time: 02/01/1904 04:35:37 -- Elapsed
Time (s): 301
see 75 -1, pixel 16, Eth =0.5 (from 1b)

F:\Users\milena\Polca\Misure\scan300_75_14b.txt
Number Read.:4408320 -- Date and Time: 02/01/1904 04:41:27 -- Elapsed
Time (s): 399
see 75 -1, pixel 15, Eth =0.5 (from 1b)

F:\Users\milena\Polca\Misure\scan300_75_15b.txt
Number Read.:3333120 -- Date and Time: 02/01/1904 04:49:14 -- Elapsed
Time (s): 304
see 75 -1, pixel 14, Eth =0.5 (from 1b)

F:\Users\milena\Polca\Misure\scan300_75_16b.txt
Number Read.:6595584 -- Date and Time: 02/01/1904 04:54:56 -- Elapsed
Time (s): 604
see 75 -1, pixel 13, Eth =0.5 (from 1b)

Step 4) Rotazione del rivelatore di 90 gradi

Step 2) Spostamento del fascio sul primo pixel del rivelatore (Pixel 1)

Step 1) Centrazione

F:\Users\milena\Polca\Misure\center300_75_1.txt
Number Read.:3000320 -- Date and Time: 02/01/1904 05:14:33 -- Elapsed
Time (s): 246
centering after 90 deg rotation

Step 3) Scansione completa del rivelatore

F:\Users\milena\Polca\Misure\scan300_75rot_1.txt
Number Read.:3000320 -- Date and Time: 02/01/1904 05:20:28 -- Elapsed
Time (s): 273
centering after 90 deg rotation, pix=1

F:\Users\milena\Polca\Misure\scan300_75rot_1.txt
Number Read.:3000320 -- Date and Time: 02/01/1904 05:32:14 -- Elapsed
Time (s): 272
centering after 90 deg rotation, pix=1

F:\Users\milena\Polca\Misure\scan300_75rot_2.txt
Number Read.:3346432 -- Date and Time: 02/01/1904 05:37:49 -- Elapsed
Time (s): 300
centering after 90 deg rotation, pix=2

F:\Users\milena\Polca\Misure\scan300_75rot_3.txt
Number Read.:3489792 -- Date and Time: 02/01/1904 05:43:28 -- Elapsed
Time (s): 303
centering after 90 deg rotation, pix=3

F:\Users\milena\Polca\Misure\scan300_75rot_4.txt
Number Read.:4026368 -- Date and Time: 02/01/1904 05:49:01 -- Elapsed
Time (s): 301
centering after 90 deg rotation, pix=4

F:\Users\milena\Polca\Misure\scan300_75rot_5.txt
Number Read.:6739968 -- Date and Time: 02/01/1904 05:54:34 -- Elapsed
Time (s): 299
centering after 90 deg rotation, pix=8

F:\Users\milena\Polca\Misure\scan300_75rot_6.txt
Number Read.:8592384 -- Date and Time: 02/01/1904 06:00:33 -- Elapsed
Time (s): 302
centering after 90 deg rotation, pix=7

F:\Users\milena\Polca\Misure\scan300_75rot_7.txt
Number Read.:9880576 -- Date and Time: 02/01/1904 06:06:10 -- Elapsed
Time (s): 303
centering after 90 deg rotation, pix=6

F:\Users\milena\Polca\Misure\scan300_75rot_8.txt
Number Read.:8580096 -- Date and Time: 02/01/1904 06:11:45 -- Elapsed
Time (s): 302
centering after 90 deg rotation, pix=5

F:\Users\milena\Polca\Misure\scan300_75rot_9.txt
Number Read.:8411136 -- Date and Time: 02/01/1904 06:17:21 -- Elapsed
Time (s): 300
centering after 90 deg rotation, pix=9

F:\Users\milena\Polca\Misure\scan300_75rot_10.txt
Number Read.:8582144 -- Date and Time: 02/01/1904 06:23:04 -- Elapsed
Time (s): 308
centering after 90 deg rotation, pix=10

F:\Users\milena\Polca\Misure\scan300_75rot_11.txt
Number Read.:8778752 -- Date and Time: 02/01/1904 06:28:48 -- Elapsed
Time (s): 302
centering after 90 deg rotation, pix=11

F:\Users\milena\Polca\Misure\scan300_75rot_12.txt
Number Read.:7721984 -- Date and Time: 02/01/1904 06:34:35 -- Elapsed
Time (s): 303
centering after 90 deg rotation, pix=12

F:\Users\milena\Polca\Misure\scan300_75rot_13.txt
Number Read.:8364032 -- Date and Time: 02/01/1904 06:40:15 -- Elapsed
Time (s): 299
centering after 90 deg rotation, pix=16

F:\Users\milena\Polca\Misure\scan300_75rot_14.txt
Number Read.:9297920 -- Date and Time: 02/01/1904 06:45:49 -- Elapsed
Time (s): 315
centering after 90 deg rotation, pix=15

F:\Users\milena\Polca\Misure\scan300_75rot_15.txt
Number Read.:8758272 -- Date and Time: 02/01/1904 06:51:40 -- Elapsed
Time (s): 302
centering after 90 deg rotation, pix=14

F:\Users\milena\Polca\Misure\scan300_75rot_16.txt
Number Read.:16189440 -- Date and Time: 02/01/1904 06:57:15 --
Elapsed Time (s): 604
centering after 90 deg rotation, pix=13

**Matrice 1283-26 Spessore 5 mm
Energia 300 keV Angolo di rotazione 0 gradi**

Step 1) Centrazione

F:\Users\milena\Polca\Misure\Matrix1283_26_Center2.txt
Number Read.:3454976 -- Date and Time: 02/01/1904 13:17:22 -- Elapsed
Time (s): 300
Thickness=5 mm, 500 V, Thr.=0,5

Step 3) Scansione completa del rivelatore

F:\Users\milena\Polca\Misure\Matrix1283_26PixelID_1.txt
Number Read.:10068992 -- Date and Time: 02/01/1904 13:27:41 --
Elapsed Time (s): 600
Thickness=5 mm, 500 V, Thr.=0,5, Rot=0

F:\Users\milena\Polca\Misure\Matrix1283_26PixelID_1.txt
Number Read.:226304 -- Date and Time: 02/01/1904 13:40:37 -- Elapsed
Time (s): 23
Thickness=5 mm, 500 V, Thr.=0,5, Rot=0, pixel=2

F:\Users\milena\Polca\Misure\Matrix1283_26PixelID_2.txt
Number Read.:3313664 -- Date and Time: 02/01/1904 13:41:27 -- Elapsed
Time (s): 301
Thickness=5 mm, 500 V, Thr.=0,5, Rot=0, pixel=2

F:\Users\milena\Polca\Misure\Matrix1283_26PixelID_3.txt
Number Read.:3338240 -- Date and Time: 02/01/1904 13:47:10 -- Elapsed
Time (s): 300
Thickness=5 mm, 500 V, Thr.=0,5, Rot=0, pixel=3

F:\Users\milena\Polca\Misure\Matrix1283_26PixelID_4.txt
Number Read.:23552 -- Date and Time: 02/01/1904 13:55:07 -- Elapsed
Time (s): 3
Thickness=5 mm, 500 V, Thr.=0,5, Rot=0, pixel=4

F:\Users\milena\Polca\Misure\Matrix1283_26PixelID_4b.txt
Number Read.:14927872 -- Date and Time: 02/01/1904 13:55:42 --
Elapsed Time (s): 600
Thickness=5 mm, 500 V, Thr.=0,5, Rot=0, pixel=4

F:\Users\milena\Polca\Misure\Matrix1283_26PixelID_8.txt
Number Read.:5839872 -- Date and Time: 02/01/1904 14:07:18 -- Elapsed
Time (s): 303
Thickness=5 mm, 500 V, Thr.=0,5, Rot=0, pixel=8

F:\Users\milena\Polca\Misure\Matrix1283_26PixelID_7.txt
Number Read.:6864896 -- Date and Time: 02/01/1904 14:13:18 -- Elapsed
Time (s): 300
Thickness=5 mm, 500 V, Thr.=0,5, Rot=0, pixel=7

F:\Users\milena\Polca\Misure\Matrix1283_26PixelID_6.txt
Number Read.:3292160 -- Date and Time: 02/01/1904 14:19:20 -- Elapsed
Time (s): 301
Thickness=5 mm, 500 V, Thr.=0,5, Rot=0, pixel=6

F:\Users\milena\Polca\Misure\Matrix1283_26PixelID_5.txt
Number Read.:7373824 -- Date and Time: 02/01/1904 14:25:05 -- Elapsed
Time (s): 300
Thickness=5 mm, 500 V, Thr.=0,5, Rot=0, pixel=5

F:\Users\milena\Polca\Misure\Matrix1283_26PixelID_9.txt
Number Read.:7379968 -- Date and Time: 02/01/1904 14:32:00 -- Elapsed
Time (s): 309
Thickness=5 mm, 500 V, Thr.=0,5, Rot=0, pixel=9

F:\Users\milena\Polca\Misure\Matrix1283_26PixelID_10.txt
Number Read.:7195648 -- Date and Time: 02/01/1904 14:38:09 -- Elapsed
Time (s): 301
Thickness=5 mm, 500 V, Thr.=0,5, Rot=0, pixel=10

F:\Users\milena\Polca\Misure\Matrix1283_26PixelID_11.txt
Number Read.:8808448 -- Date and Time: 02/01/1904 14:45:41 -- Elapsed
Time (s): 301
Thickness=5 mm, 500 V, Thr.=0,5, Rot=0, pixel=11

F:\Users\milena\Polca\Misure\Matrix1283_26PixelID_12.txt
Number Read.:6224896 -- Date and Time: 02/01/1904 14:51:41 -- Elapsed
Time (s): 307
Thickness=5 mm, 500 V, Thr.=0,5, Rot=0, pixel=12

F:\Users\milena\Polca\Misure\Matrix1283_26PixelID_16.txt
Number Read.:7016448 -- Date and Time: 02/01/1904 14:57:34 -- Elapsed
Time (s): 307
Thickness=5 mm, 500 V, Thr.=0,5, Rot=0, pixel=16

F:\Users\milena\Polca\Misure\Matrix1283_26PixelID_15.txt
Number Read.:7237632 -- Date and Time: 02/01/1904 15:03:31 -- Elapsed
Time (s): 300
Thickness=5 mm, 500 V, Thr.=0,5, Rot=0, pixel=15

F:\Users\milena\Polca\Misure\Matrix1283_26PixelID_15.txt
Number Read.:7033856 -- Date and Time: 02/01/1904 15:09:24 -- Elapsed
Time (s): 300
Thickness=5 mm, 500 V, Thr.=0,5, Rot=0, pixel=15

F:\Users\milena\Polca\Misure\Matrix1283_26PixelID_13.txt
Number Read.:14000128 -- Date and Time: 02/01/1904 15:16:42 --
Elapsed Time (s): 1206
Thickness=5 mm, 500 V, Thr.=0,5, Rot=0, pixel=13

Step 4) Rotazione del rivelatore di 90 gradi
Step 2) Spostamento del fascio sul primo pixel del rivelatore (Pixel 1)
Step 1) Centatura

F:\Users\milena\Polca\Misure\Matrix1283_26center_a.txt
Number Read.:3000320 -- Date and Time: 02/01/1904 16:26:36 -- Elapsed
Time (s): 246
Rotation 90 deg - same cond. as before rot.

Step 3) Scansione completa del rivelatore

F:\Users\milena\Polca\Misure\Matrix1283_26rot90Pix_1.txt
Number Read.: 4096 -- Date and Time: 02/01/1904 16:33:08 -- Elapsed
Time (s): 1
Rotation 90 deg - same cond. as before rot.

Pix=1

F:\Users\milena\Polca\Misure\Matrix1283_26rot90Pix_1b.txt
Number Read.:14184448 -- Date and Time: 02/01/1904 16:33:36 --
Elapsed Time (s): 601
Rotation 90 deg - same cond. as before rot.
Pix=1

F:\Users\milena\Polca\Misure\Matrix1283_26rot90Pix_2.txt
Number Read.:279552 -- Date and Time: 02/01/1904 16:45:35 -- Elapsed
Time (s): 25
rotation 90 deg, same condition of first scan, pix=2

F:\Users\milena\Polca\Misure\Matrix1283_26rot90Pix_2b.txt
Number Read.:8390656 -- Date and Time: 02/01/1904 16:46:46 -- Elapsed
Time (s): 301
rotation 90 deg, same condition of first scan, pix=2

F:\Users\milena\Polca\Misure\Matrix1283_26rot90Pix_3.txt
Number Read.:7900160 -- Date and Time: 02/01/1904 16:52:47 -- Elapsed
Time (s): 301
rotation 90 deg, same condition of first scan, pix=3

F:\Users\milena\Polca\Misure\Matrix1283_26rot90Pix_4.txt
Number Read.: 88064 -- Date and Time: 02/01/1904 16:59:06 -- Elapsed
Time (s): 11
rotation 90 deg, same condition of first scan, pix=4

F:\Users\milena\Polca\Misure\Matrix1283_26rot90Pix_4b.txt
Number Read.:16089088 -- Date and Time: 02/01/1904 16:59:30 --
Elapsed Time (s): 604
rotation 90 deg, same condition of first scan, pix=4

F:\Users\milena\Polca\Misure\Matrix1283_26rot90Pix_8.txt
Number Read.:8609792 -- Date and Time: 02/01/1904 17:10:32 -- Elapsed
Time (s): 302
rotation 90 deg, same condition of first scan, pix=8

F:\Users\milena\Polca\Misure\Matrix1283_26rot90Pix_7.txt
Number Read.:10320896 -- Date and Time: 02/01/1904 17:16:14 --
Elapsed Time (s): 366
rotation 90 deg, same condition of first scan, pix=7

F:\Users\milena\Polca\Misure\Matrix1283_26rot90Pix_6.txt
Number Read.:8045568 -- Date and Time: 02/01/1904 17:23:07 -- Elapsed
Time (s): 288
rotation 90 deg, same condition of first scan, pix=6

F:\Users\milena\Polca\Misure\Matrix1283_26rot90Pix_5.txt
Number Read.:6264832 -- Date and Time: 02/01/1904 17:28:32 -- Elapsed
Time (s): 267
rotation 90 deg, same condition of first scan, pix=5

F:\Users\milena\Polca\Misure\Matrix1283_26rot90Pix_9.txt
Number Read.:9833472 -- Date and Time: 02/01/1904 17:33:28 -- Elapsed
Time (s): 298
rotation 90 deg, same condition of first scan, pix=9

F:\Users\milena\Polca\Misure\Matrix1283_26rot90Pix_10.txt
Number Read.:6643712 -- Date and Time: 02/01/1904 17:38:59 -- Elapsed
Time (s): 245
rotation 90 deg, same condition of first scan, pix=10

F:\Users\milena\Polca\Misure\Matrix1283_26rot90Pix_11.txt
Number Read.:7668736 -- Date and Time: 02/01/1904 17:43:24 -- Elapsed
Time (s): 241
rotation 90 deg, same condition of first scan, pix=11

F:\Users\milena\Polca\Misure\Matrix1283_26rot90Pix_12.txt
Number Read.:5308416 -- Date and Time: 02/01/1904 17:48:15 -- Elapsed
Time (s): 241
rotation 90 deg, same condition of first scan, pix=12

F:\Users\milena\Polca\Misure\Matrix1283_26rot90Pix_11.txt
Number Read.:247808 -- Date and Time: 02/01/1904 17:52:42 -- Elapsed
Time (s): 25
rotation 90 deg, same condition of first scan, pix=11

F:\Users\milena\Polca\Misure\Matrix1283_26rot90Pix_16.txt
Number Read.:5980160 -- Date and Time: 02/01/1904 17:53:24 -- Elapsed
Time (s): 247
rotation 90 deg, same condition of first scan, pix=16

F:\Users\milena\Polca\Misure\Matrix1283_26rot90Pix_15.txt
Number Read.:5980160 -- Date and Time: 02/01/1904 17:58:03 -- Elapsed
Time (s): 245
rotation 90 deg, same condition of first scan, pix=15

F:\Users\milena\Polca\Misure\Matrix1283_26rot90Pix_14.txt
Number Read.:6345728 -- Date and Time: 02/01/1904 18:02:43 -- Elapsed
Time (s): 240
rotation 90 deg, same condition of first scan, pix=14

F:\Users\milena\Polca\Misure\Matrix1283_26rot90Pix_13.txt
Number Read.:4667392 -- Date and Time: 02/01/1904 18:07:22 -- Elapsed
Time (s): 251
rotation 90 deg, same condition of first scan, pix=13

Matrice 1283-26 Spessore 5 mm
Background

F:\Users\milena\Polca\Misure\Matrix1283_26bkg_a.txt
Number Read.:303898 -- Date and Time: 02/01/1904 19:39:38 -- Elapsed
Time (s): 3698
Background - Rotated 90 - same condition before

F:\Users\milena\Polca\Misure\Matrix1283_26bkg_b.txt
Number Read.:327564 -- Date and Time: 02/01/1904 20:43:34 -- Elapsed
Time (s): 6724
Background - come back 90 deg - same condition before

Matrice 1283-26 Spessore 5 mm
Energia 400 keV Angolo di rotazione 0 gradi

Step 1) Centratatura

F:\Users\milena\Polca\Misure\Matrix1283_26center400_a.txt
Number Read.:500736 -- Date and Time: 03/01/1904 00:23:31 -- Elapsed
Time (s): 311
beam Spot 0.4 mm; beam energy 400

Step 3) Scansione completa del rivelatore

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_0.txt
Number Read.: 11264 -- Date and Time: 03/01/1904 00:29:35 -- Elapsed
Time (s): 10
beam Spot 0.4 mm; beam energy 400

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_0.txt
Number Read.: 5120 -- Date and Time: 03/01/1904 00:29:57 -- Elapsed
Time (s): 5
beam Spot 0.4 mm; beam energy 400

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_1.txt
Number Read.:200704 -- Date and Time: 03/01/1904 00:30:22 -- Elapsed
Time (s): 179
beam Spot 0.4 mm; beam energy 400 pix 1

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_2.txt
Number Read.:200704 -- Date and Time: 03/01/1904 00:36:16 -- Elapsed
Time (s): 175
beam Spot 0.4 mm; beam energy 400 pix2

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_3.txt
Number Read.:200548 -- Date and Time: 03/01/1904 00:39:37 -- Elapsed
Time (s): 181
beam Spot 0.4 mm; beam energy 400 pix3

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_4.txt
Number Read.:200590 -- Date and Time: 03/01/1904 00:43:16 -- Elapsed
Time (s): 184
beam Spot 0.4 mm; beam energy 400 pix4

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_5.txt
Number Read.: 36864 -- Date and Time: 03/01/1904 00:46:42 -- Elapsed
Time (s): 7
beam Spot 0.4 mm; beam energy 400 pix5

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_5b.txt
Number Read.:200704 -- Date and Time: 03/01/1904 00:46:56 -- Elapsed
Time (s): 180
beam Spot 0.4 mm; beam energy 400 pix5

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_8.txt
Number Read.:200704 -- Date and Time: 03/01/1904 00:51:24 -- Elapsed
Time (s): 181
beam Spot 0.4 mm; beam energy 400 pix8

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_7.txt
Number Read.: 26624 -- Date and Time: 03/01/1904 00:55:06 -- Elapsed
Time (s): 9
beam Spot 0.4 mm; beam energy 400 pix7

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_7b.txt
Number Read.: 25600 -- Date and Time: 03/01/1904 00:55:23 -- Elapsed
Time (s): 23
beam Spot 0.4 mm; beam energy 400 pix7

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_7c.txt
Number Read.: 14336 -- Date and Time: 03/01/1904 00:56:02 -- Elapsed
Time (s): 6
beam Spot 0.4 mm; beam energy 400 pix7

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_7d.txt
Number Read.:200704 -- Date and Time: 03/01/1904 00:56:15 -- Elapsed
Time (s): 177
beam Spot 0.4 mm; beam energy 400 pix7

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_6.txt
Number Read.:200704 -- Date and Time: 03/01/1904 01:00:12 -- Elapsed
Time (s): 180
beam Spot 0.4 mm; beam energy 400 pix6

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_5.txt
Number Read.:200528 -- Date and Time: 03/01/1904 01:04:15 -- Elapsed
Time (s): 189
beam Spot 0.4 mm; beam energy 400 pix5

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_9.txt
Number Read.:200704 -- Date and Time: 03/01/1904 01:08:00 -- Elapsed
Time (s): 179
beam Spot 0.4 mm; beam energy 400 pix9

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_10.txt
Number Read.:200704 -- Date and Time: 03/01/1904 01:11:28 -- Elapsed
Time (s): 178
beam Spot 0.4 mm; beam energy 400 pix10

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_11.txt
Number Read.:200556 -- Date and Time: 03/01/1904 01:15:35 -- Elapsed
Time (s): 178
beam Spot 0.4 mm; beam energy 400 pix11

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_12.txt
Number Read.:200318 -- Date and Time: 03/01/1904 01:19:35 -- Elapsed
Time (s): 189
beam Spot 0.4 mm; beam energy 400 pix12

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_16.txt
Number Read.:200572 -- Date and Time: 03/01/1904 01:23:39 -- Elapsed
Time (s): 176
beam Spot 0.4 mm; beam energy 400 pix16

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_15.txt
Number Read.:200590 -- Date and Time: 03/01/1904 01:28:13 -- Elapsed
Time (s): 185
beam Spot 0.4 mm; beam energy 400 pix15

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_14.txt
Number Read.:200430 -- Date and Time: 03/01/1904 01:31:37 -- Elapsed
Time (s): 190
beam Spot 0.4 mm; beam energy 400 pix14

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_13.txt
Number Read.:400882 -- Date and Time: 03/01/1904 01:35:25 -- Elapsed
Time (s): 394
beam Spot 0.4 mm; beam energy 400 pix13

Step 4) Rotazione del rivelatore di 90 gradi
Step 2) Spostamento del fascio sul primo pixel del rivelatore (Pixel 1)
Step 1) Centatura

F:\Users\milena\Polca\Misure\Matrix1283_26center400_b.txt
Number Read.:300032 -- Date and Time: 03/01/1904 01:49:54 -- Elapsed
Time (s): 218
centering after a 90 deg rotation.

Step 3) Scansione completa del rivelatore

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_1.txt
Number Read.:200280 -- Date and Time: 03/01/1904 01:57:44 -- Elapsed
Time (s): -86201
pix 1, no lead in front of the beam (as for all the test with 400 keV)

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_2.txt
Number Read.:200100 -- Date and Time: 02/01/1904 02:03:44 -- Elapsed
Time (s): 194
pix2, no lead in front of the beam (as for all the test with 400 keV)

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_3.txt
Number Read.:200346 -- Date and Time: 02/01/1904 02:07:43 -- Elapsed
Time (s): 195
pix 3, no lead in front of the beam (as for all the test with 400 keV)

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_4.txt
Number Read.:200322 -- Date and Time: 02/01/1904 02:11:33 -- Elapsed
Time (s): 200
pix 4, no lead in front of the beam (as for all the test with 400 keV)

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_8.txt
Number Read.:200532 -- Date and Time: 02/01/1904 02:17:10 -- Elapsed
Time (s): 193
pix 8, no lead in front of the beam (as for all the test with 400 keV)

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_7.txt
Number Read.:200664 -- Date and Time: 02/01/1904 02:21:10 -- Elapsed
Time (s): 191
pix7, no lead in front of the beam (as for all the test with 400 keV)

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_6.txt
Number Read.:200598 -- Date and Time: 02/01/1904 02:25:05 -- Elapsed
Time (s): 191
pix6, no lead in front of the beam (as for all the test with 400 keV)

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_5.txt
Number Read.:200892 -- Date and Time: 02/01/1904 02:30:23 -- Elapsed
Time (s): 199
pix5, no lead in front of the beam (as for all the test with 400 keV)

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_9.txt
Number Read.: 1988 -- Date and Time: 02/01/1904 02:35:55 -- Elapsed
Time (s): 29
pix9, no lead in front of the beam (as for all the test with 400 keV)

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_9.txt
Number Read.: 728 -- Date and Time: 02/01/1904 02:37:31 -- Elapsed
Time (s): 11

pix9, no lead in front of the beam (as for all the test with 400 keV)

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_9.txt
Number Read.: 1950 -- Date and Time: 02/01/1904 02:37:57 -- Elapsed
Time (s): 31
pix9, no lead in front of the beam (as for all the test with 400 keV)

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_9.txt
Number Read.: 458 -- Date and Time: 02/01/1904 02:42:18 -- Elapsed
Time (s): 7
pix9, no lead in front of the beam (as for all the test with 400 keV)

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_9b.txt
Number Read.:200704 -- Date and Time: 02/01/1904 04:03:21 -- Elapsed
Time (s): 158
pix9, no lead in front of the beam (as for all the test with 400 keV)

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_10.txt
Number Read.:200704 -- Date and Time: 02/01/1904 04:06:34 -- Elapsed
Time (s): 158
pix9, no lead in front of the beam (as for all the test with 400 keV)

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_11.txt
Number Read.:200704 -- Date and Time: 02/01/1904 04:09:45 -- Elapsed
Time (s): 152
pix9, no lead in front of the beam (as for all the test with 400 keV)

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_12.txt
Number Read.:200704 -- Date and Time: 02/01/1904 04:12:40 -- Elapsed
Time (s): 162
pix9, no lead in front of the beam (as for all the test with 400 keV)

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_13.txt
Number Read.: 14336 -- Date and Time: 02/01/1904 04:17:16 -- Elapsed
Time (s): 12
pix16, no lead in front of the beam (as for all the test with 400 keV)

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_13b.txt
Number Read.:400384 -- Date and Time: 02/01/1904 04:17:52 -- Elapsed
Time (s): 315
pix16, no lead in front of the beam (as for all the test with 400 keV)

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_15.txt
Number Read.:219136 -- Date and Time: 02/01/1904 04:24:56 -- Elapsed
Time (s): 177
pix15, no lead in front of the beam (as for all the test with 400 keV)

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_14.txt
Number Read.:200704 -- Date and Time: 02/01/1904 04:28:48 -- Elapsed
Time (s): 172
pix14, no lead in front of the beam (as for all the test with 400 keV)

F:\Users\milena\Polca\Misure\Matrix1283_26_400pix_13.txt
Number Read.:200704 -- Date and Time: 02/01/1904 04:32:08 -- Elapsed
Time (s): 176
pix13, no lead in front of the beam (as for all the test with 400 keV)

Matrice 1167-11 Spessore 3.4 mm
Energia 400 keV Angolo di rotazione 0 gradi

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_Test.txt
Number Read.: 70656 -- Date and Time: 02/01/1904 04:42:19 -- Elapsed
Time (s): 10
pix ?, no lead in front of the beam (as for all the test with 350 keV)

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_Test1.txt
Number Read.: 47104 -- Date and Time: 02/01/1904 04:44:14 -- Elapsed
Time (s): 22
pix ?, no lead in front of the beam (as for all the test with 350 keV)

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_Test1.txt
Number Read.:200704 -- Date and Time: 02/01/1904 04:46:08 -- Elapsed
Time (s): 97
pix ?, no lead in front of the beam (as for all the test with 350 keV)

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_Center.txt
Number Read.:3149824 -- Date and Time: 02/01/1904 05:21:19 -- Elapsed
Time (s): 280
pix ?, no lead in front of the beam (as for all the test with 350 keV)

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_Center.txt
Number Read.: 93184 -- Date and Time: 02/01/1904 05:27:19 -- Elapsed
Time (s): 10
Center, no lead in front of the beam (as for all the test with 350 keV)

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_Test7.txt
Number Read.: 79872 -- Date and Time: 02/01/1904 05:27:47 -- Elapsed
Time (s): 15
Center, no lead in front of the beam (as for all the test with 350 keV)

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_Test7.txt
Number Read.: 28672 -- Date and Time: 02/01/1904 05:28:41 -- Elapsed
Time (s): 13
Center, no lead in front of the beam (as for all the test with 350 keV)

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_Centerb.txt
Number Read.: 64512 -- Date and Time: 02/01/1904 05:30:17 -- Elapsed
Time (s): 29
Center, no lead in front of the beam (as for all the test with 350 keV)

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_Test8.txt
Number Read.:207872 -- Date and Time: 02/01/1904 05:31:21 -- Elapsed
Time (s): 28
Center, no lead in front of the beam (as for all the test with 350 keV)

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_Centerc.txt
Number Read.:771072 -- Date and Time: 02/01/1904 05:32:28 -- Elapsed
Time (s): 125
Center, no lead in front of the beam (as for all the test with 350 keV)

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_Test9.txt
Number Read.:267264 -- Date and Time: 02/01/1904 05:35:11 -- Elapsed
Time (s): 42
Center, no lead in front of the beam (as for all the test with 350 keV)

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_Test9.txt
Number Read.:187392 -- Date and Time: 02/01/1904 05:35:56 -- Elapsed
Time (s): 37
Center, no lead in front of the beam (as for all the test with 350 keV)

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_Test9.txt
Number Read.: 51200 -- Date and Time: 02/01/1904 05:36:35 -- Elapsed
Time (s): 9
Center, no lead in front of the beam (as for all the test with 350 keV)

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_Test9.txt
Number Read.: 67584 -- Date and Time: 02/01/1904 05:36:58 -- Elapsed
Time (s): 19
Center, no lead in front of the beam (as for all the test with 350 keV)

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_Test9.txt
Number Read.: 59392 -- Date and Time: 02/01/1904 05:37:30 -- Elapsed
Time (s): 13
Center, no lead in front of the beam (as for all the test with 350 keV)

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_Test9.txt
Number Read.:181248 -- Date and Time: 02/01/1904 05:37:55 -- Elapsed
Time (s): 28
Center, no lead in front of the beam (as for all the test with 350 keV)

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_Test9.txt
Number Read.:175104 -- Date and Time: 02/01/1904 05:38:41 -- Elapsed
Time (s): 40
Center, no lead in front of the beam (as for all the test with 350 keV)

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_Centerd.txt
Number Read.:1271808 -- Date and Time: 02/01/1904 05:39:35 -- Elapsed
Time (s): 188
Center, no lead in front of the beam (as for all the test with 350 keV)

Step 3) Scansione completa del rivelatore

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_1.txt
Number Read.: 41984 -- Date and Time: 02/01/1904 05:44:52 -- Elapsed
Time (s): 8
Pix 1, no lead in front of the beam (as for all the test with 350 keV)

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_1b.txt
Number Read.:1000448 -- Date and Time: 02/01/1904 05:45:12 -- Elapsed
Time (s): 183
Pix 1, no lead in front of the beam (as for all the test with 350 keV)

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_2.txt
Number Read.:1000448 -- Date and Time: 02/01/1904 05:49:01 -- Elapsed
Time (s): 167
Pix 1, no lead in front of the beam (as for all the test with 350 keV)

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_3.txt
Number Read.:821248 -- Date and Time: 02/01/1904 05:52:18 -- Elapsed
Time (s): 140
Pix 3, no lead in front of the beam (as for all the test with 350 keV)

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_Test10.txt
Number Read.: 31744 -- Date and Time: 02/01/1904 05:56:46 -- Elapsed
Time (s): 4
Pix 3, no lead in front of the beam (as for all the test with 350 keV)

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_Test10.txt
Number Read.:227328 -- Date and Time: 02/01/1904 05:57:02 -- Elapsed
Time (s): 59
Pix 3, no lead in front of the beam (as for all the test with 350 keV)

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_Test10.txt
Number Read.:104448 -- Date and Time: 02/01/1904 05:59:48 -- Elapsed
Time (s): 26
Pix 3, no lead in front of the beam (as for all the test with 350 keV)

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_Test10.txt
Number Read.: 79538 -- Date and Time: 02/01/1904 06:01:08 -- Elapsed
Time (s): 83
Pix 3, no lead in front of the beam (as for all the test with 350 keV)

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_Test10.txt
Number Read.: 21040 -- Date and Time: 02/01/1904 06:02:34 -- Elapsed
Time (s): 24
Pix 3, no lead in front of the beam (as for all the test with 350 keV)

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_Test10.txt
Number Read.: 9310 -- Date and Time: 02/01/1904 06:03:35 -- Elapsed
Time (s): 15
Pix 3, no lead in front of the beam (as for all the test with 350 keV)

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_Test10.txt
Number Read.:473634 -- Date and Time: 02/01/1904 06:04:01 -- Elapsed
Time (s): 92
Pix 3, no lead in front of the beam (as for all the test with 350 keV)

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_1c.txt
Number Read.:203540 -- Date and Time: 02/01/1904 06:05:44 -- Elapsed
Time (s): 144
Pix 1, no lead in front of the beam (as for all the test with 350 keV)

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_2b.txt
Number Read.:200838 -- Date and Time: 02/01/1904 06:08:42 -- Elapsed
Time (s): 132
Pix 1, no lead in front of the beam (as for all the test with 350 keV)

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_3b.txt
Number Read.: 3914 -- Date and Time: 02/01/1904 06:11:35 -- Elapsed
Time (s): 5
Pix 3, no lead in front of the beam (as for all the test with 350 keV)

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_3c.txt
Number Read.:200662 -- Date and Time: 02/01/1904 06:11:55 -- Elapsed
Time (s): 150

?, no lead in front of the beam (as for all the test with 350 keV)

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_Test11.txt
Number Read.:111616 -- Date and Time: 02/01/1904 07:13:28 -- Elapsed
Time (s): 35
?, no lead in front of the beam (as for all the test with 350 keV)

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_Test11.txt
Number Read.:144384 -- Date and Time: 02/01/1904 07:14:05 -- Elapsed
Time (s): 40
?, no lead in front of the beam (as for all the test with 350 keV)

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_Test11.txt
Number Read.:122880 -- Date and Time: 02/01/1904 07:14:48 -- Elapsed
Time (s): 38
?, no lead in front of the beam (as for all the test with 350 keV)

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_Test11.txt
Number Read.:126976 -- Date and Time: 02/01/1904 07:15:28 -- Elapsed
Time (s): 36
?, no lead in front of the beam (as for all the test with 350 keV)

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_Test11.txt
Number Read.:179200 -- Date and Time: 02/01/1904 07:16:09 -- Elapsed
Time (s): 42
?, no lead in front of the beam (as for all the test with 350 keV)

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_Test11.txt
Number Read.:136192 -- Date and Time: 02/01/1904 07:16:52 -- Elapsed
Time (s): 58
?, no lead in front of the beam (as for all the test with 350 keV)

F:\Users\milena\Polca\Misure\Matrix1167_11_400pix_Test11.txt
Number Read.: 90112 -- Date and Time: 02/01/1904 07:17:54 -- Elapsed
Time (s): 37
?, no lead in front of the beam (as for all the test with 350 keV)

Step 4) Rotazione del rivelatore di 90 gradi
Step 2) Spostamento del fascio sul primo pixel del rivelatore (Pixel 1)
Step 1) Centatura

F:\Users\milena\Polca\Misure\Matrix1167_11_400rot90pix_Center.txt
Number Read.:400348 -- Date and Time: 02/01/1904 07:19:02 -- Elapsed
Time (s): 182
?, no lead in front of the beam (as for all the test with 350 keV), rot=90

Step 3) Scansione completa

F:\Users\milena\Polca\Misure\Matrix1167_11_400rot90pix_1.txt
Number Read.:350088 -- Date and Time: 02/01/1904 07:24:42 -- Elapsed
Time (s): 160
pix 1, no lead in front of the beam (as for all the test with 350 keV), rot=90

F:\Users\milena\Polca\Misure\Matrix1167_11_400rot90pix_2.txt
Number Read.:350208 -- Date and Time: 02/01/1904 07:27:49 -- Elapsed
Time (s): 108
pix 2, no lead in front of the beam (as for all the test with 350 keV), rot=90

F:\Users\milena\Polca\Misure\Matrix1167_11_400rot90pix_3.txt
Number Read.:400384 -- Date and Time: 02/01/1904 07:30:22 -- Elapsed
Time (s): 126
pix 3, no lead in front of the beam (as for all the test with 350 keV), rot=90

F:\Users\milena\Polca\Misure\Matrix1167_11_400rot90pix_4.txt
Number Read.:400384 -- Date and Time: 02/01/1904 07:32:57 -- Elapsed
Time (s): 94
pix 4, no lead in front of the beam (as for all the test with 350 keV), rot=90

F:\Users\milena\Polca\Misure\Matrix1167_11_400rot90pix_8.txt
Number Read.:400384 -- Date and Time: 02/01/1904 07:35:56 -- Elapsed
Time (s): 135
pix 8, no lead in front of the beam (as for all the test with 350 keV), rot=90

F:\Users\milena\Polca\Misure\Matrix1167_11_400rot90pix_7.txt

Number Read.:400384 -- Date and Time: 02/01/1904 07:38:33 -- Elapsed
Time (s): 123
pix 7, no lead in front of the beam (as for all the test with 350 keV), rot=90

F:\Users\milena\Polca\Misure\Matrix1167_11_400rot90pix_7.txt
Number Read.: 35840 -- Date and Time: 02/01/1904 07:41:10 -- Elapsed
Time (s): 7
pix 7, no lead in front of the beam (as for all the test with 350 keV), rot=90

F:\Users\milena\Polca\Misure\Matrix1167_11_400rot90pix_6.txt
Number Read.:400384 -- Date and Time: 02/01/1904 07:41:30 -- Elapsed
Time (s): 119
pix 6, no lead in front of the beam (as for all the test with 350 keV), rot=90

F:\Users\milena\Polca\Misure\Matrix1167_11_400rot90pix_5.txt
Number Read.:400384 -- Date and Time: 02/01/1904 07:43:55 -- Elapsed
Time (s): 163
pix 5, no lead in front of the beam (as for all the test with 350 keV), rot=90

F:\Users\milena\Polca\Misure\Matrix1167_11_400rot90pix_9.txt
Number Read.:400384 -- Date and Time: 02/01/1904 07:47:04 -- Elapsed
Time (s): 110
pix 9, no lead in front of the beam (as for all the test with 350 keV), rot=90

F:\Users\milena\Polca\Misure\Matrix1167_11_400rot90pix_10.txt
Number Read.:400384 -- Date and Time: 02/01/1904 07:49:39 -- Elapsed
Time (s): 148
pix 10, no lead in front of the beam (as for all the test with 350 keV), rot=90

F:\Users\milena\Polca\Misure\Matrix1167_11_400rot90pix_11.txt
Number Read.:400384 -- Date and Time: 02/01/1904 07:52:35 -- Elapsed
Time (s): 159
pix 11, no lead in front of the beam (as for all the test with 350 keV), rot=90

F:\Users\milena\Polca\Misure\Matrix1167_11_400rot90pix_12.txt
Number Read.:400384 -- Date and Time: 02/01/1904 07:55:43 -- Elapsed
Time (s): 127
pix 12, no lead in front of the beam (as for all the test with 350 keV), rot=90

F:\Users\milena\Polca\Misure\Matrix1167_11_400rot90pix_16.txt
Number Read.:400384 -- Date and Time: 02/01/1904 07:58:11 -- Elapsed
Time (s): 124
pix 16, no lead in front of the beam (as for all the test with 350 keV), rot=90

F:\Users\milena\Polca\Misure\Matrix1167_11_400rot90pix_15.txt
Number Read.:400384 -- Date and Time: 02/01/1904 08:00:43 -- Elapsed
Time (s): 51
pix 15, no lead in front of the beam (as for all the test with 350 keV), rot=90

F:\Users\milena\Polca\Misure\Matrix1167_11_400rot90pix_15b.txt
Number Read.:800768 -- Date and Time: 02/01/1904 08:01:57 -- Elapsed
Time (s): 92
pix 15, no lead in front of the beam (as for all the test with 350 keV), rot=90

F:\Users\milena\Polca\Misure\Matrix1167_11_400rot90pix_14.txt
Number Read.:800768 -- Date and Time: 02/01/1904 08:04:01 -- Elapsed
Time (s): 88
pix 14, no lead in front of the beam (as for all the test with 350 keV), rot=90

F:\Users\milena\Polca\Misure\Matrix1167_11_400rot90pix_13.txt
Number Read.:182272 -- Date and Time: 02/01/1904 08:06:02 -- Elapsed
Time (s): 18
pix 13, no lead in front of the beam (as for all the test with 350 keV), rot=90

F:\Users\milena\Polca\Misure\Matrix1167_11_400rot90pix_13b.txt
Number Read.:800768 -- Date and Time: 02/01/1904 08:06:34 -- Elapsed
Time (s): 82
pix 13, no lead in front of the beam (as for all the test with 350 keV), rot=90

F:\Users\milena\Polca\Misure\Matrix1167_11_400rot90pix_Test20.txt
Number Read.: 41984 -- Date and Time: 02/01/1904 08:08:35 -- Elapsed
Time (s): 5
pix 13, no lead in front of the beam (as for all the test with 350 keV), rot=90

F:\Users\milena\Polca\Misure\Matrix1167_11_400rot90pix_Test20.txt
Number Read.: 47104 -- Date and Time: 02/01/1904 08:09:55 -- Elapsed
Time (s): 5
?, no lead in front of the beam (as for all the test with 350 keV), rot=90

F:\Users\milena\Polca\Misure\Matrix1167_11_400rot90pix_Test20.txt
Number Read.: 55296 -- Date and Time: 02/01/1904 08:10:26 -- Elapsed
Time (s): 6
?, no lead in front of the beam (as for all the test with 350 keV), rot=90

F:\Users\milena\Polca\Misure\Matrix1167_11_400rot90pix_Test20.txt
Number Read.: 26624 -- Date and Time: 02/01/1904 08:10:59 -- Elapsed
Time (s): 4
?, no lead in front of the beam (as for all the test with 350 keV), rot=90

**Matrice 1186-49 Spessore 7.5 mm
Energia 400 keV Angolo di rotazione 0 gradi**

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_Test1.txt
Number Read.:134144 -- Date and Time: 02/01/1904 08:17:50 -- Elapsed
Time (s): 41
?, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_Test1.txt
Number Read.: 8 -- Date and Time: 02/01/1904 08:19:03 -- Elapsed
Time (s): 19
?, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_Test1.txt
Number Read.: 28 -- Date and Time: 02/01/1904 08:19:23 -- Elapsed
Time (s): 25
?, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_Test1.txt
Number Read.: 34 -- Date and Time: 02/01/1904 08:19:57 -- Elapsed
Time (s): 14
?, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_Test1.txt
Number Read.: 8 -- Date and Time: 02/01/1904 08:20:22 -- Elapsed
Time (s): 5
?, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_Test1.txt
Number Read.:169984 -- Date and Time: 02/01/1904 08:21:20 -- Elapsed
Time (s): 84
?, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_Test1.txt
Number Read.:110592 -- Date and Time: 02/01/1904 08:22:45 -- Elapsed
Time (s): 47
?, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_Test1.txt
Number Read.:125952 -- Date and Time: 02/01/1904 08:23:33 -- Elapsed
Time (s): 46
?, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_Test1.txt
Number Read.:131072 -- Date and Time: 02/01/1904 08:24:20 -- Elapsed
Time (s): 62
?, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_Test1.txt
Number Read.: 62464 -- Date and Time: 02/01/1904 08:25:23 -- Elapsed
Time (s): 35
?, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_Test1.txt
Number Read.: 2048 -- Date and Time: 02/01/1904 08:26:15 -- Elapsed
Time (s): 1
?, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_Test1.txt

Number Read.:149504 -- Date and Time: 02/01/1904 08:26:20 -- Elapsed
Time (s): 55
?, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_Test1.txt
Number Read.: 84992 -- Date and Time: 02/01/1904 08:27:17 -- Elapsed
Time (s): 29
?, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_Test1.txt
Number Read.: 29696 -- Date and Time: 02/01/1904 08:27:48 -- Elapsed
Time (s): 17
?, no lead in front of the beam (as for all the test with 750 V)

Step 1) Centratatura

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_Center.txt
Number Read.:150528 -- Date and Time: 02/01/1904 08:28:14 -- Elapsed
Time (s): 84
?, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_Center.txt
Number Read.: 20480 -- Date and Time: 02/01/1904 08:30:01 -- Elapsed
Time (s): 12
?, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_Centerb.txt
Number Read.:200704 -- Date and Time: 02/01/1904 08:30:25 -- Elapsed
Time (s): 111
?, no lead in front of the beam (as for all the test with 750 V)

Step 3) Scansione completa

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_1.txt
Number Read.:200704 -- Date and Time: 02/01/1904 08:33:04 -- Elapsed
Time (s): 163
pix 1, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_1.txt
Number Read.: 1024 -- Date and Time: 02/01/1904 08:36:36 -- Elapsed
Time (s): 2
pix 2, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_2.txt
Number Read.: 6144 -- Date and Time: 02/01/1904 08:36:48 -- Elapsed
Time (s): 6
pix 2, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_2b.txt
Number Read.:200704 -- Date and Time: 02/01/1904 08:36:59 -- Elapsed
Time (s): 156
pix 2, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_3.txt
Number Read.:200704 -- Date and Time: 02/01/1904 08:40:08 -- Elapsed
Time (s): 156
pix 2, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_4.txt
Number Read.:200704 -- Date and Time: 02/01/1904 08:43:22 -- Elapsed
Time (s): 166
pix 4, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_8.txt
Number Read.:200704 -- Date and Time: 02/01/1904 08:46:35 -- Elapsed
Time (s): 160
pix 8, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_7.txt
Number Read.:200704 -- Date and Time: 02/01/1904 08:49:48 -- Elapsed
Time (s): 152
pix 7, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_6.txt

Number Read.:200704 -- Date and Time: 02/01/1904 08:52:56 -- Elapsed Time (s): 155
pix 6, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_5.txt
Number Read.:200704 -- Date and Time: 02/01/1904 08:56:00 -- Elapsed Time (s): 163
pix 5, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_9.txt
Number Read.:200704 -- Date and Time: 02/01/1904 08:59:35 -- Elapsed Time (s): 148
pix 9, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_10.txt
Number Read.:200704 -- Date and Time: 02/01/1904 09:02:34 -- Elapsed Time (s): 150
pix 10, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_11.txt
Number Read.:200704 -- Date and Time: 02/01/1904 09:05:24 -- Elapsed Time (s): 153
pix 11, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_12.txt
Number Read.:200704 -- Date and Time: 02/01/1904 09:08:17 -- Elapsed Time (s): 161
pix 12, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_16.txt
Number Read.:200704 -- Date and Time: 02/01/1904 09:11:30 -- Elapsed Time (s): 162
pix 16, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_15.txt
Number Read.:200704 -- Date and Time: 02/01/1904 09:15:08 -- Elapsed Time (s): 160
pix 15, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_14.txt
Number Read.: 14030 -- Date and Time: 02/01/1904 09:19:04 -- Elapsed Time (s): 38
pix 14, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_14.txt
Number Read.: 1010 -- Date and Time: 02/01/1904 09:19:43 -- Elapsed Time (s): 10
pix 14, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_14.txt
Number Read.: 14336 -- Date and Time: 02/01/1904 09:20:51 -- Elapsed Time (s): 13
pix 14, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_14b.txt
Number Read.:102400 -- Date and Time: 02/01/1904 09:21:05 -- Elapsed Time (s): 37
pix 14, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_14b.txt
Number Read.: 43008 -- Date and Time: 02/01/1904 09:21:43 -- Elapsed Time (s): 35
pix 14, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_Test2.txt
Number Read.:200704 -- Date and Time: 02/01/1904 09:23:06 -- Elapsed Time (s): 44
pix 14, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_Test2.txt
Number Read.:131072 -- Date and Time: 02/01/1904 09:24:52 -- Elapsed Time (s): 55
pix 14, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_Test2.txt

Number Read.: 17408 -- Date and Time: 02/01/1904 09:25:49 -- Elapsed Time (s): 12
pix 14, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_Test2.txt
Number Read.: 79872 -- Date and Time: 02/01/1904 09:26:21 -- Elapsed Time (s): 29
pix 14, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_Test2.txt
Number Read.:101376 -- Date and Time: 02/01/1904 09:26:53 -- Elapsed Time (s): 43
pix 14, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_Test2.txt
Number Read.: 9216 -- Date and Time: 02/01/1904 09:27:37 -- Elapsed Time (s): 6
pix 14, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_Test2.txt
Number Read.: 22528 -- Date and Time: 02/01/1904 09:28:27 -- Elapsed Time (s): 19
pix 14, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_14c.txt
Number Read.:200704 -- Date and Time: 02/01/1904 09:29:14 -- Elapsed Time (s): 164
pix 14, no lead in front of the beam (as for all the test with 750 V)

F:\Users\milena\Polca\Misure\Matrix1186_49_400pix_13.txt
Number Read.:200704 -- Date and Time: 02/01/1904 09:32:33 -- Elapsed Time (s): 174
pix 13, no lead in front of the beam (as for all the test with 750 V)