

MA-5

INTRODUCTION

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MA5: The Parallel Universe

Ma5 has a twofold nature:

- *Autonomy in the field of the experimental research*
- *Synergy with other MA's (MA1, MA2, MA3, MA4) to support their activities.*

MA5 Research Areas :

- *Tecnologie per telescopi e strumentazione nelle bande infrarossa, ottica e UV*
- *Tecnologie del sole e del plasma interplanetario*
- *Tecnologie per radioastronomia*
- *Tecnologie per missioni spaziali*
- *Informatica astro*

Activities are often complementary or superposed to those characterizing the INAF Technological Sectors (ST1 'Organizzativo-Gestionale' & ST3 'Tecnico Scientifico')

- *3a Informatica ed elaborazione dati*
- *3b Progettazione Strumentazione e/o impianti di ricerca*
- *5.1 Sviluppo di nuove tecnologie per osservazioni da terra*
- *5.2 Sviluppo di nuove tecnologie per osservazioni dallo spazio*
- *5.3 Sviluppo di nuove tecnologie informatiche per astrofisica*

Heritage

- OAS has a long tradition of experimental research applied to project, conduction, support of astrophysical experiments and projects ground, balloon, Space based.
- The state of the art of the experimental research carried on at OAS, in the past, and now, has permitted to:
- Play managerial and technical roles at the highest level: PI, PM, SE, AIV, PA, PC ;
 - To intercept relevant financial rates;
 - To consolidate with time the infrastructure endowment of the groups;
 - To pay (and retain) the temporary staff.
 - To get observational time, privileges for the full exploitation of data, rights on publication policy.

MA5 vs OAS-DAYS

- Plan: synergy between MA5 and other MA's privileged by shortly alternating SCI and technical talks.
- Activities grouped by project (each belonging to a principal MA)
- Activities presented along the OAS-DAYS can be either:
 - **Technological Drivers** for the overall project (modelling on them).
 - **State of the art** of the experimental research, devoted to the service of specific projects.
 - **Activities transverse to wavelengths and projects**, needing to develop state of the art devoces or methods, and basing on the consolidated heritage from past projects.

MA5 Spectral Coverage (Big Projects)

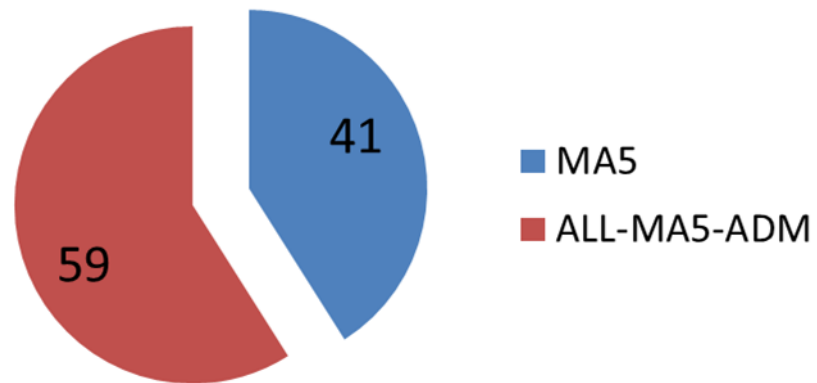


MA5 & ST @ OAS

- 48 People working on technical issues*.
 - 3 INAF Associates
 - 4 Temporary Contracts + Ph.D.
 - 41 Permanent

* Researchers, Technologists, Technicians

MA COMPOSITION (%)



CED & HIGH PERFORMANCE COMPUTING

- CED provides the infrastructural services
- Other High perf. computational services (dedicated SW, parallel computing, clusters, etc) are provided in synergy between CED and the OAS technical group taking care of developing scientific codes and optimizing the HW.

(see the dedicated presentation:

Centro di Calcolo Opportunità e Prospettive)

17/12/2018

- 11.50 Cuttaia Introduzione MA5
- 11.50-12.20 Origlia / Ciliegi ELT + HIRES “MAORY: il modulo di ottica adattiva per il telescopio ELT”
- 12.20-12.50 Stirpe Loiano
- 15.05-15.20 Caroli/Auricchio "Sviluppo di rivelatori a semiconduttore per spettrometria, imaging e polarimetria per raggi X duri/gamma molli"
- 15.50-16.15 Cappi/Fioretti Athena
- 16.15-16.45 Bulgarelli CTA

18/12/2018

- 10.30-10.55 Auricchio / Zucca EUCLID experimental activities, ground segment and scientific exploitation preparation. Status and perspective.
- 11.35-12.20 Villa / Morgante "The Cryowaves Experience: onde millimetriche a temperature criogeniche. Viaggio illustrato dagli Appennini alle Ande, attraversando lo spazio profondo.«
- 14.30-15.00 Gianotti / De Rosa / Merighi Centro di Calcolo Opportunità e Prospettive
- 15.30-16.10 Amati / Fuschino / Campana Theseus-Hermes
- 16.10-16.40 Terenzi/Morgante Sandri Bulgarelli Tecnologie Trasversali: "Previsioni. Temperature nel mondo: valori in calo nei prossimi 10 anni. Studio termico e criogenico di strumentazione astrofisica (e non solo): un'attività scientifica, sperimentale, tecnologica inter-spettrale e multi-piattaforma". Progettazione ottica/elettromagnetica multibanda trasversale a vari progetti INAF da Satellite e da Terra "Deep learning, Big Data and Open POWR Foundation activities for high-energy astrophysics"