INAF OAS
BOLOGNA

AGN accretion & ejection physics

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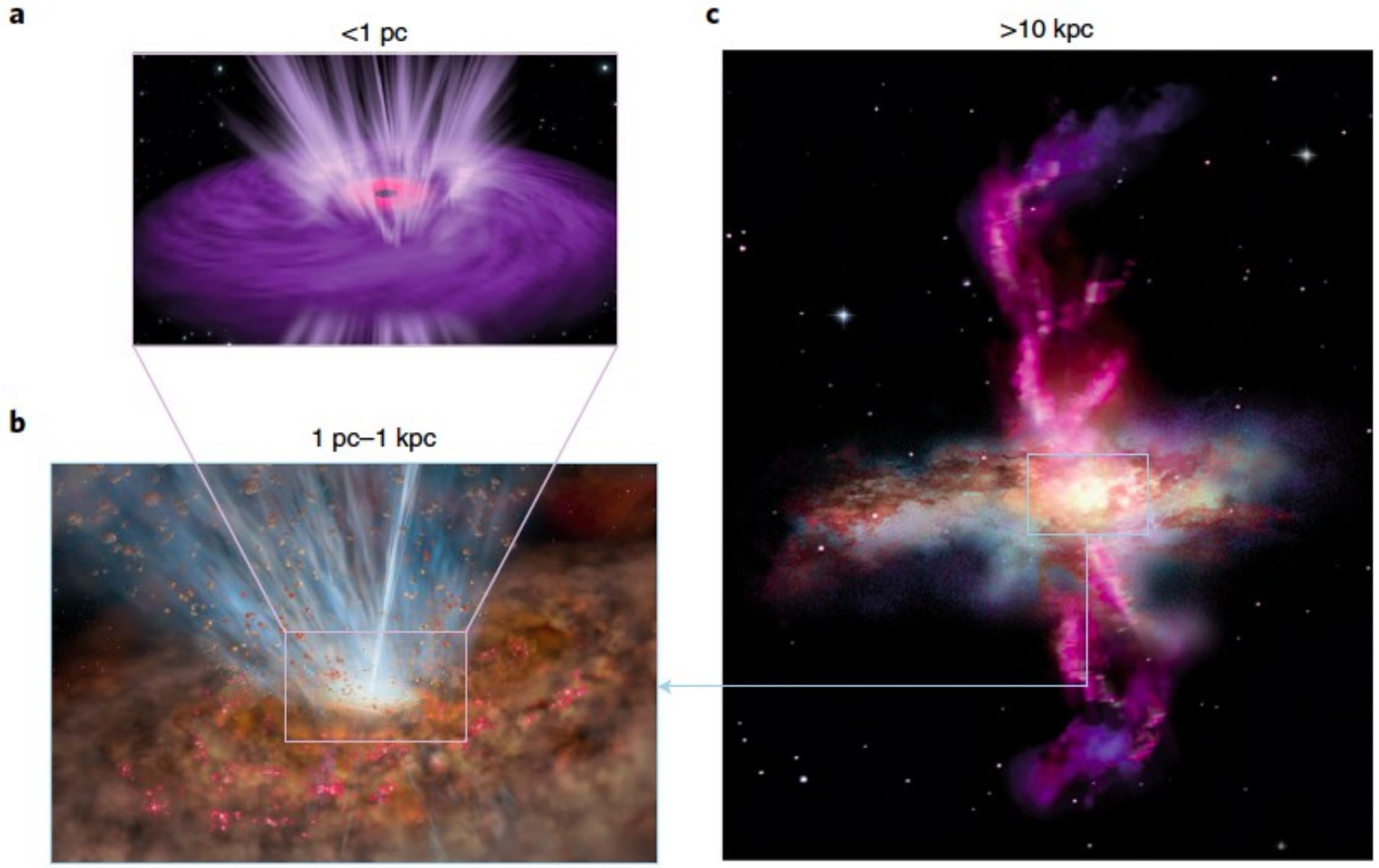
DIFA: M. Brusa, C. Vignali

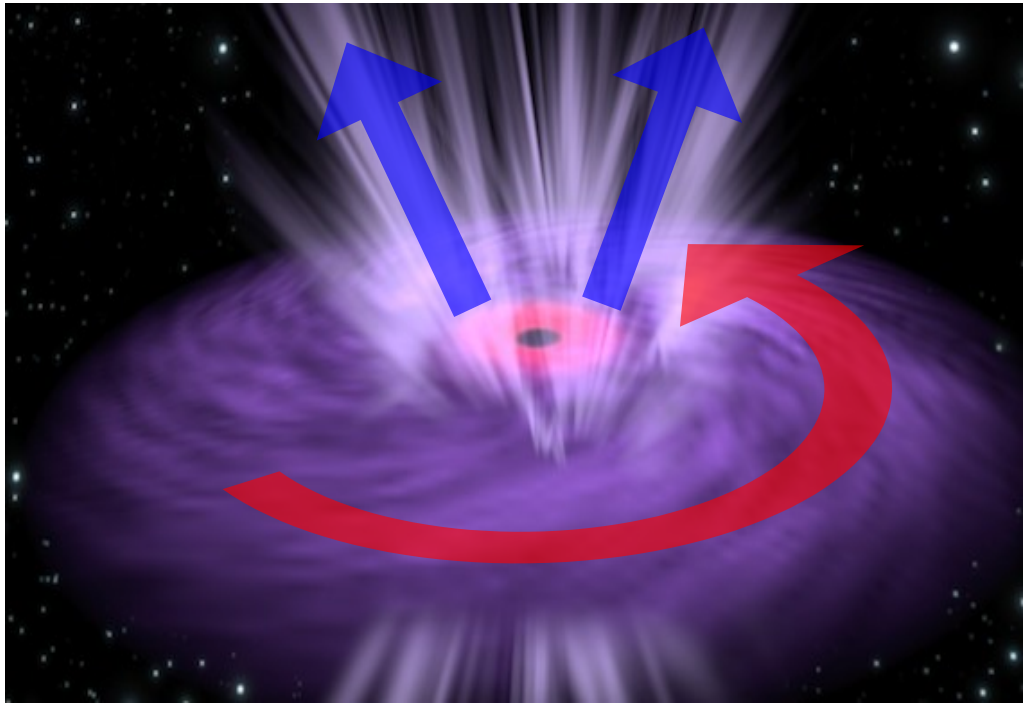
Thesis day 17 Dec. 2019

Accretion and ejection flows in nearby and distant AGNs



Adapted from Cicone, Brusa+18, Nat. As., 2, 176

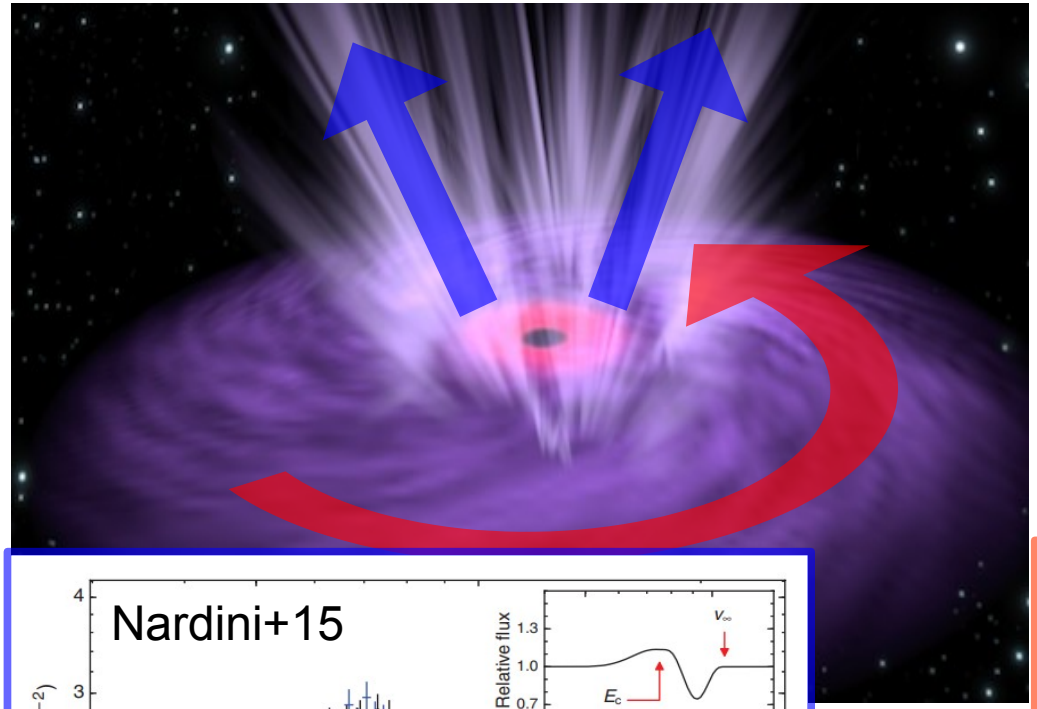
Accretion and ejection flows in nearby and distant AGNs



Characterize the geometry and velocity of the outflow/wind, and its impact on the host galaxy

Characterize the geometry and mode of the accretion flow

Accretion and ejection flows in nearby and distant AGNs ...through **X-ray** spectroscopy/timing/imaging



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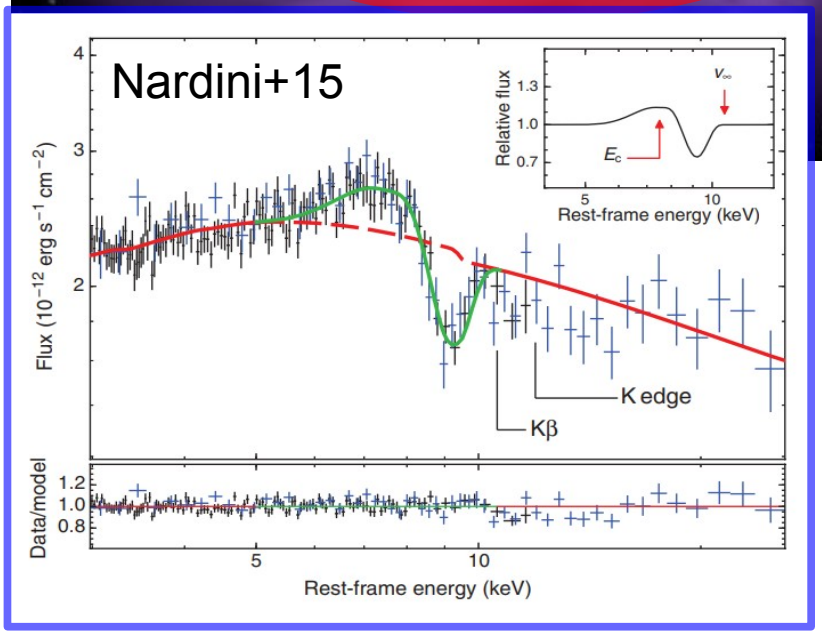
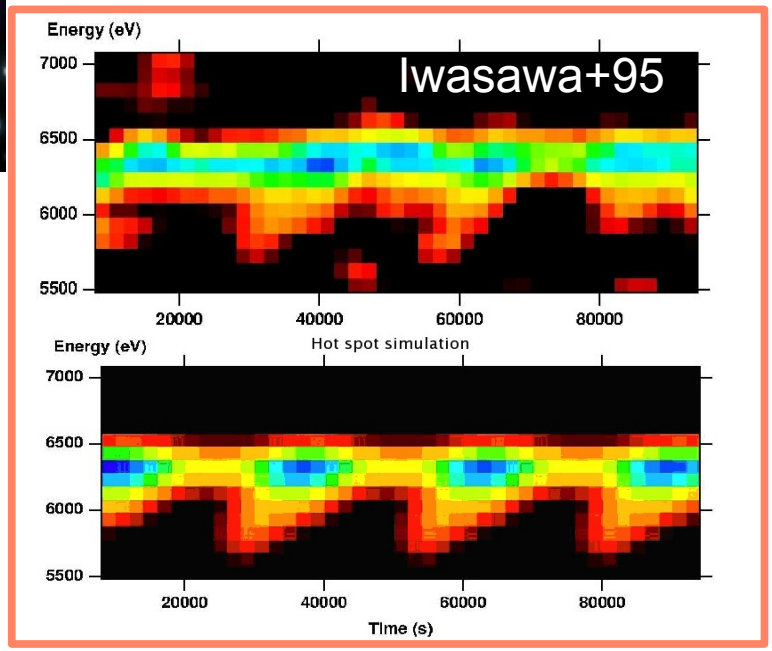




Tesi 1: Accretion properties in Seyfert locali brillanti

Supervisor: **M. Cappi**

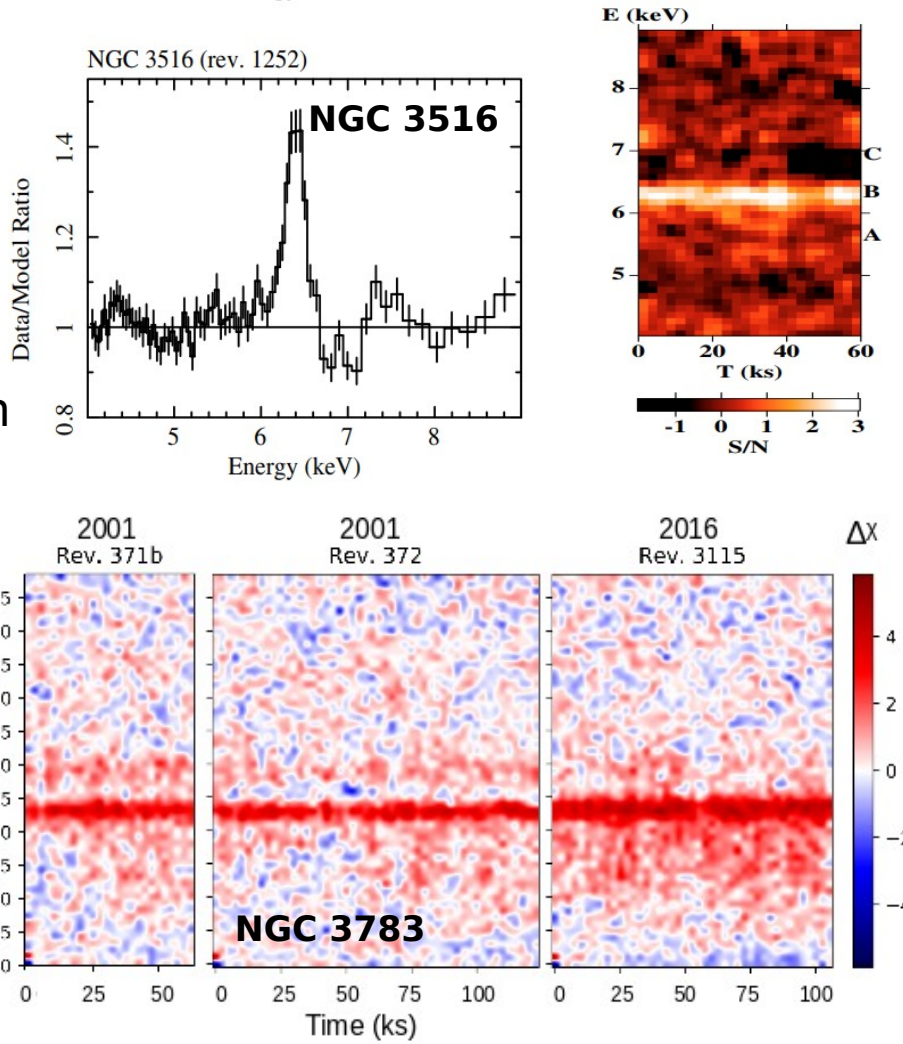
Spectral-timing di Seyfert a basso z

- Dati: **XMM-Newton** (archivio)

- Goal: ricerca e modellizzazione di righe in emissione e assorbimento per mappare inflows e outflows su scale **r<100R$_g$**

Contact person @DIFA: C. Vignali

De Marco +09



D. Costanzo PhD, +19 in prep.

Tesi 2: Accretion and ejection in Quasar brillanti e lensati

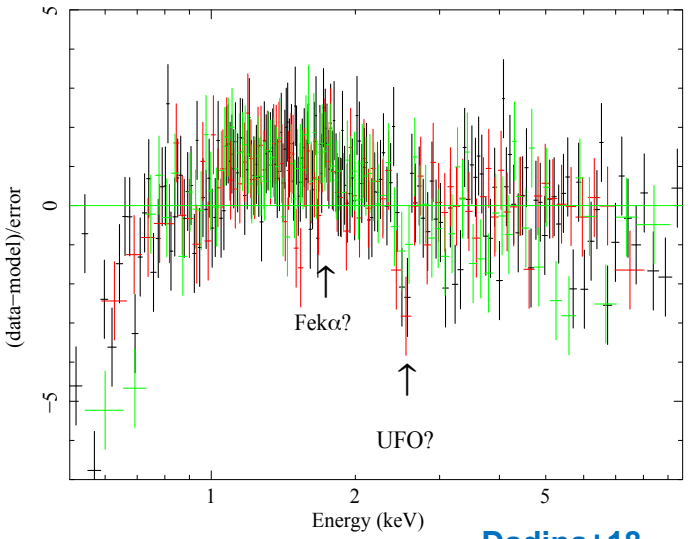
Supervisor: **M. Dadina**

Analisi spettrale di high-z (z>2) QSO (in genere lensati)

- Dati: **XMM-Newton** (archivio e Large Program 450ks PI Cappi, 4 QSO, **Nustar** PI Lanzuisi APM08279, z=3.91)

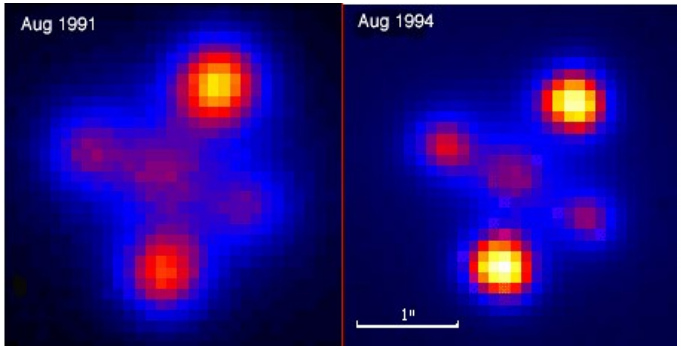
- Goal: Caratterizzazione di Ultra Fast Outflow nei quasar più luminosi ad alto z per stima dell'impatto del feedback al **picco di BH growth e SF history**

MG J0414+0534 (z=2.64)



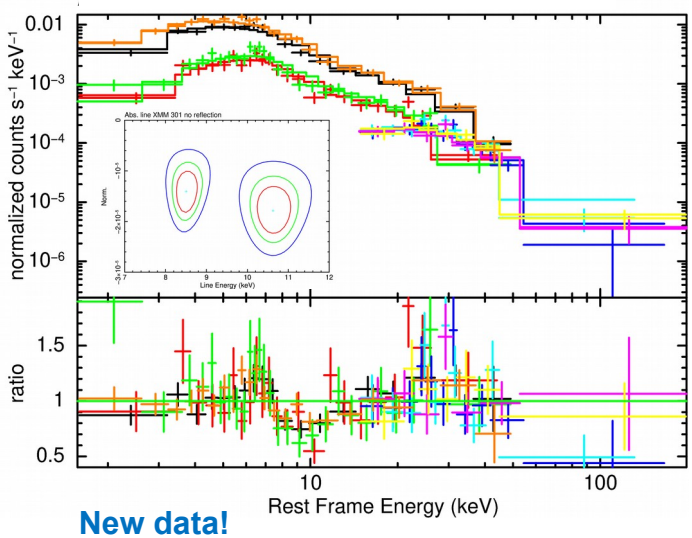
Dadina+18

Einstein Cross (z=1.695)



Chartas+09, E. Bertola Thesis 2019

APM 08279 (z=3,91)



New data!

Contact person @DIFA: C. Vignali

Tesi 3: UFOs e venti galattici in un Quasar a basso z

Supervisor: **G. Lanzuisi**

Analisi spettrale di un Quasar a basso z

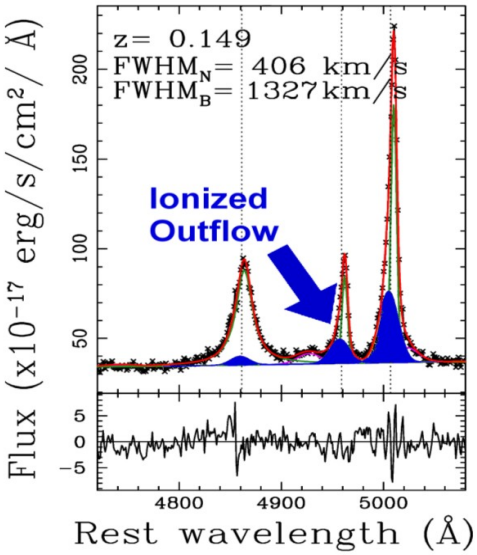
- Dati: **SDSS, XMM-Newton, Chandra**
(prossimo proposal Nustar)

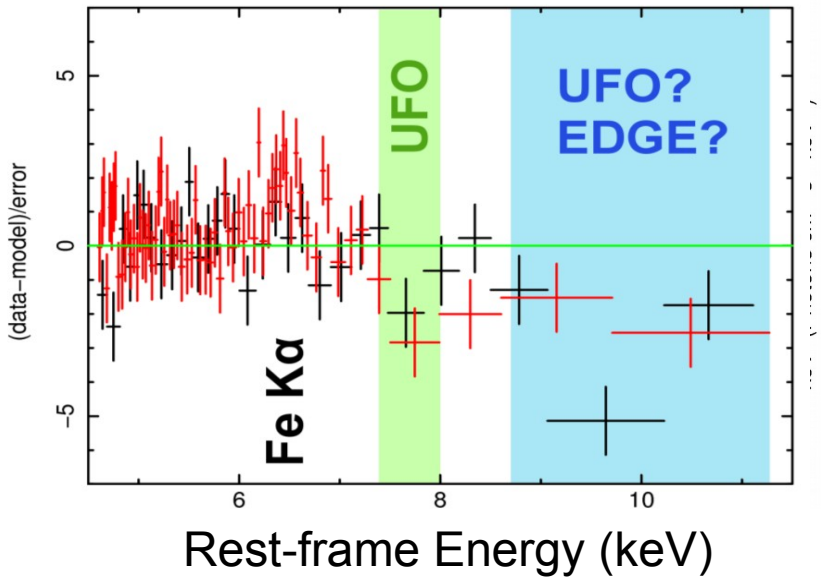
- Goal: Caratterizzazione di UFOs. Energetica dell'outflow in rapporto al vento su larga scala osservato in OIII (e molecolare? Proposal ALMA)

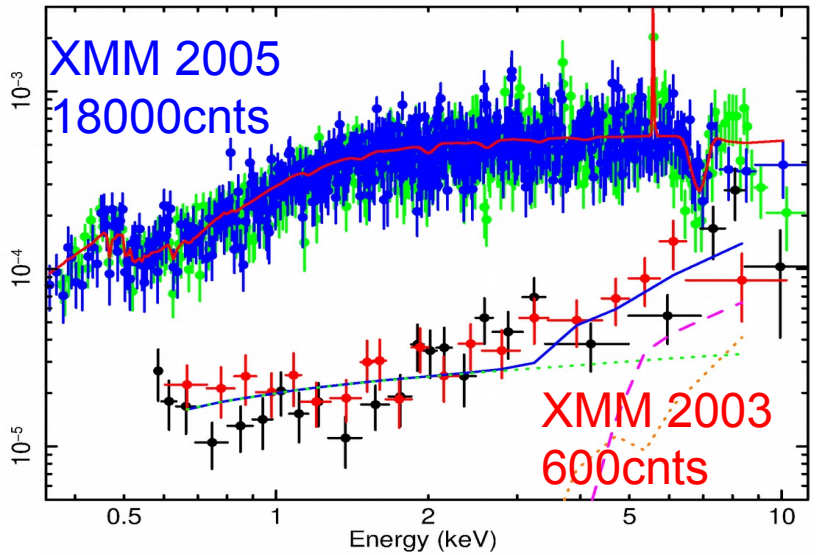
Contact person @DIFA: M. Brusa

2MASS 0918+2117 (z=0.149)

Pounds&Wilkes07, Perna+17 PhD







Tesi 4: Duty cycle e variability di UFO in Quasar a basso z

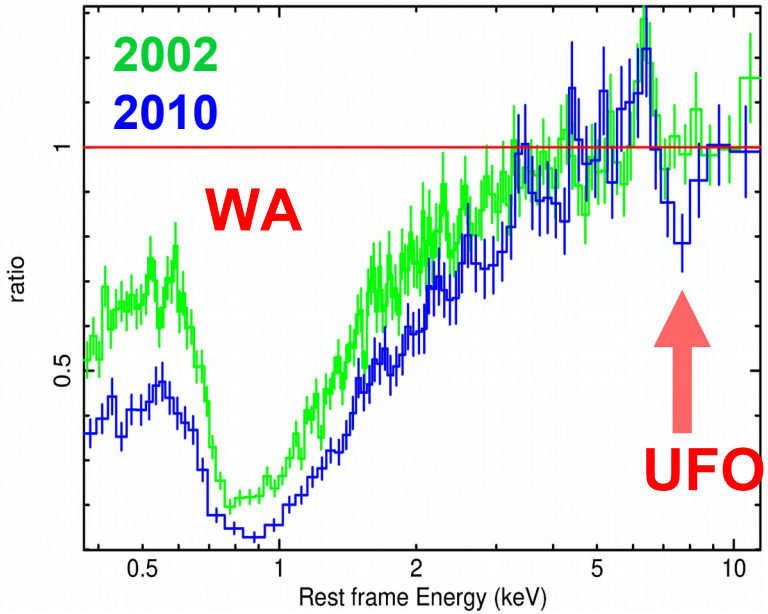
Supervisor: **G. Lanzuisi**

Variabilità di UFO e Warm Absorber su tempi scala h → yr

- Dati: **XMM-Newton** (12 oss. in archivio!)

- Goal: Studio della variabilità del WA, UFO, detection rate/duty cycle.

PG 1114+445 (z=0.144)



Contact person @DIFA: M. Brusa

Vedi anche Large Program XMM SUBWAYS (PI Brusa): https://marcellabrusa.wixsite.com/subways2019

1.6Ms per mappare UFO in 20 Quasar locali, 6 già osservati.