



X-RAY ASTRONOMY 2019

Current Challenges and New Frontiers in the Next Decade

8-13 September 2019
CNR/INAF Research Area, Bologna, Italy

Contribution ID: 324

Type: **Poster**

Enhancing the ATHENA effective area at low x-ray energies with unconventional overcoatings

Friday, 13 September 2019 20:18 (2 minutes)

Low density overcoatings (mainly based on materials containing Carbon) onto usual hi Z materials (like Ir, Au or Pt) have been proposed more than 10 years ago for enhancing the X-ray reflectivity at low energy (between 0.5 and 4 keV) in X-ray astronomical optics. The hack is to use the total reflection from the low density material (which do not suffer much the photoelectric absorption) at low energy, while the photons at high energy are reflected by the high density material. Now for several future projects like e.g. ATHENA and eXTP it is foreseen the use of low density overcoatings that will importantly increase the effective area at low energy. In this poster we will discuss about the use of materials different from the ones considered so far, in particular based on a thin layer of Chromium followed by another layer of a Carbon-like material, and of novel approaches for their application.

Topic

Future missions

Affiliation

INAF - Osservatorio Astronomico di Brera

Primary author: PARESCHI, Giovanni (Istituto Nazionale di Astrofisica (INAF))

Co-authors: Dr PELLICIARI, Carlo (MPE); Dr GIBERTINI, Eugenio (Politecnico di Milano); Dr SIRONI, Giorgia (INAF- Osservatorio Astronomico di Brera); Dr VALSECCHI, Giuseppe (Media Lario srl); Prof. MAGAGNIN, Luca (Politecnico di Milano); Dr CIVITANI, Marta Maria (INAF - Osservatorio Astronomico di Brera); Dr BRADSHAW, Miranda (MPE); Dr DÖHRING, Thorsten (TH Aschaffenburg –University of Applied Sciences); Dr BURWITZ, Vadim (MPE); Dr COTRONEO, Vincenzo (INAF - Osservatorio Astronomico di Brera); Mr YANG, Yang (Tongji University / INAF - Osserv. Astron. Brera)

Presenter: PARESCHI, Giovanni (Istituto Nazionale di Astrofisica (INAF))

Session Classification: POSTER SESSION