**ANNA VOLPARA**

Title: *A new approach for STIX regularized imaging-spectroscopy*

Authors: A. Volpara, E. Perracchione, F. Camattari, F. Filbir, A. Lupoli, M. Piana, A. M. Massone

Speaker: A. Volpara

Abstract: The imaging problem for Spectrometer/Telescope for Imaging X-rays (STIX) consists in reconstructing the X-ray photon flux from a sparse sampling of its Fourier transform. The limited number of visibilities measured by the instrument makes this task particularly challenging. In this talk, a novel approach to image reconstruction at many different energy channels is described. Our method aims to produce smoothed reconstructed maps along the energy direction, enabling effective regularized imaging-spectroscopy. To demonstrate the efficacy and efficiency of this approach, experimental visibilities collected by both RHESSI and STIX, and synthetic visibilities will be considered. The results showcase the practical utility of this technique for addressing the complexities associated with X-ray imaging and spectroscopy.

**BARBARA PALUMBO**

Title: 3D flare reconstruction from STIX ans HXI data: a simulation study

Authors: B. Palumbo, P. Massa, D. Ryan, Y. Su, S. Krucker, A. M. Massone, F. Benvenuto, and M. Piana

Speaker: B. Palumbo

Abstract: X-ray imaging of solar flares has been always addressed as the reconstruction of a 2D image from Fourier components (visibilities) recorded by a single telescope. Since October 2022, for the first time, two X-ray imagers have been simultaneously observing the Sun from different vantage points. Therefore, we can now address the problem of retrieving the 3D geometry of the flaring emission with a single reconstruction process by combining observations provided by the two instruments. In this talk, we present preliminary results of the 3D flare reconstruction process in a simulation case study, and we show the potential of this methodology for retrieving an accurate estimate of volume and location of the flare thermal source.