

An XMM-Newton survey of non-thermal shell candidates: Preliminary results on DA530

F. Bocchino (1), R. Bandiera (2), Y. Gallant (3)

(1) INAF-Osservatorio Astronomico di Palermo, Italy; (2) INAF-Osservatorio Astrofisico di Arcetri, Italy; (3) LPTA, IN2P3/CNRS, Univ. Montpellier, France

The investigation of the general properties of non-thermal (NT) X-ray shell SNRs, of which SN 1006 is the prototype, is important to understand how electrons are accelerated in SNR shocks and the origin of cosmic rays. Using the XMM-Newton satellite, we are carrying a survey of putative non-thermal SNR candidates previously unknown or little studied in the X-ray band, in order to investigate the different manifestations of NT emission in SNR shells. We have selected 5 candidates, which are SNR expanding in low density medium, i.e. with a low thermal X-ray emission, that usually outshines the non-thermal one. We report here preliminary results obtained on the SNR shell DA530.