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Peering Into the Extended X-ray Emission on Megaparsec Scale in 3C 187

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We present an imaging and spectral analysis of Chandra data for the radio galaxy 3C 187 ($z = 0.465$). The diffuse X-ray emission around 3C 187 in the 0.5-3 keV band is found to extend up to ~ 900 kpc along the radio lobe direction and ~ 700 kpc in the cross-cone direction. Spectral X-ray analysis in combination with radio data yields a possible interpretation of the emission observed in the lobes as IC/CMB radiation. In a thermal scenario, the emission from the cones can be interpreted as thermal radiation from hot gas with temperatures of ~ 2.2 keV and ~ 5.4 keV, respectively. Using NOMAD optical data we found that 3C 187 belongs to a red-sequence of 14 optical sources whose color distribution differs significantly from background sources. Although this can be an indication that 3C 187 belongs to a cluster of galaxies, whose ICM can be responsible for the emission observed in the north lobe and cross-cone region, deeper X-ray observations and optical spectroscopic data are needed to get a clearer picture of this source.

Primary author: PAGGI, Alessandro (INAF-OATo)

Co-authors: MASSARO, Francesco (TO); Dr RICCI, Federica (Istituto de Astrofisica and Centro de Astroingenieria, Facultad de Fisica, Pontificia Universidad Catolica de Chile); STUARDI, Chiara (Universita' di Bologna); Dr KRAFT, Ralph P. (Harvard-Smithsonian Center for Astrophysics); Dr TREMBLAY, Grant R. (Harvard-Smithsonian Center for Astrophysics); Dr JONES, Christine (Harvard-Smithsonian Center for Astrophysics); Dr BAUM, Stefi A. (Dept. of Physics and Astronomy, University of Manitoba); Dr WILKES, Belinda J. (Harvard-Smithsonian Center for Astrophysics)

Presenter: PAGGI, Alessandro (INAF-OATo)

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