

EUVE OBSERVATIONS OF NGC 5548

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Abstract.

The first extreme ultraviolet spectrum of NGC 5548 obtained by EUVE is presented.

Key words: NGC 5548, EUV-emission

1. Introduction

NGC 5548 is one of the brightest Seyfert galaxies in the soft X-ray band. The spectrum and 0.5 day variations of the soft X-rays can be interpreted by correlated temperature - luminosity changes of an accretion disk (Kaastra & Barr 1989) or alternatively by ionisation of a warm absorber (Nandra et al. 1993).

2. Observations

Here we study the EUV spectrum of NGC 5548 using the Extreme UltraViolet Explorer (EUVE) launched in 1992. EUVE is sensitive to photons from 16–180 eV with a high spectral resolution ($E/\Delta E \sim 200\text{--}400$). Due to interstellar absorption only the hardest part of the spectrum of NGC 5548 is observable (above 100 eV).

NGC 5548 was observed during 3 periods: March 10–24, April 26 – May 4 and May 12–14. It was detected only during the first epoch with a count rate of $(1.6 \pm 0.4) 10^{-3}$ counts/s. The 126–182 eV flux, corrected for absorption ($N_{\text{H}} = 1.5 10^{20} \text{ cm}^{-2}$) is $(6.7 \pm 1.9) 10^{-15} \text{ Wm}^{-2}$ and 3 times larger if $N_{\text{H}} = 2 10^{20} \text{ cm}^{-2}$. For the second and third observation the 3σ upper limits are $2.6 10^{-15} \text{ Wm}^{-2}$ and $2.1 10^{-15} \text{ Wm}^{-2}$, respectively. The spectrum shows no significant line features, except maybe a weak feature near 90.2 Å (significance 3.8σ), which however is difficult to interpret and might be an instrumental artefact.

References

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