**X-ray emission of the shock of SN1006.**

**Constraints on electron kinetics**

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**SNRs and kinetics of electrons**

Electrons around the shock in SN1006 reveal the following properties (preliminary results):

- The electron injection efficiency \( \eta_s \) does not reveal any dependence on \( V \), in agreement with model of Ghavamian et al. (2007).
- The highest electron-proton equilibration the smaller injection efficiency: \( \eta_s \sim \nu^{-1.4} \), in agreement with model of Petruk & Bandiera (2006).

**Radio observations**

The best ever obtained radio image of SN1006 (synthesized beam 8''x5'').

**X-ray observations with XMM**

SN1006 was observed by XMM 8 times in period 2000-2005. Total cleared exposure is 122 ksec.

**X-ray mosaic images**

Exposure-corrected EPIC MOS mosaic images of SN1006.

**Source regions and spectra**

Parameters of interest

- Level of electron thermalization \( T_e \)
- \( \eta_s \) - Injection efficiency of electrons
- \( \eta_e \) - Electron injection efficiency
- \( R_{\text{max}} \) - Maximum energy of accelerated electrons
- \( T_e, R_{\text{max}} \) - Fluxes for X-ray analysis
- Brightness profiles

**Conclusions**

The goal of the present study is to trace the behavior of the shock emission of the shock of SN1006. The higher electron-proton equilibration the smaller injection efficiency: \( \eta_s \sim \nu^{-1.4} \), in agreement with model of Petruk & Bandiera (2006).

The higher electron-proton equilibration the smaller injection efficiency: \( \eta_s \sim \nu^{-1.4} \), in agreement with model of Ghavamian et al. (2007).

Since \( T_e \) does not reveal any dependence on the shock velocity \( V \), in agreement with model of Ghavamian et al. (2007).

Note: The electron injection efficiency \( \eta_s \) increases with \( V \) due to decrease of the electron thermalization level and increase of the electron injection efficiency.

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**References**

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