

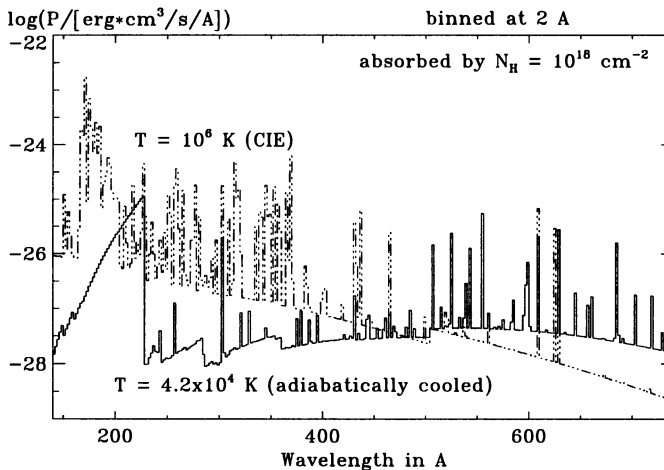
EVOLUTION AND STATE OF THE LOCAL ISM

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The most puzzling observations concerning the LISM (distance < 100 pc) can be explained by a fast adiabatically cooled gas in the cavity of an old superbubble. The ultrasoft X-ray background and contributions to the C- and M-bands are due to the continuum emission of delayed recombination [1]. In contrast to collisional ionization equilibrium (CIE) models, but consistent with recent observations [2], our model predicts a lack of emission lines and a low emissivity in the EUV range. In the figure below we compare the emissivities resulting from CIE at $T = 10^6$ K and those from our model at $T = 4.2 \times 10^4$ K. The basic feature of our model is a thermally self-consistent approach of the time-dependent evolution.



References

1. Breitschwerdt, D., Schmutzler, T., 1994, *Nature*, **371**, 774–777
2. Jelinsky, P., Vallerga, J.V., Edelman, J., 1995, *Astrophys. J.*, **442**, 653–661