Electron-proton temperature equilibration mechanisms in SNRs

Felix Aharonian[1], Denys Malyshev[2,3]

[1]Max-Planck-Institut für Kernphysik (Heidelberg, Germany)
[2]Dublin Institute for Advanced Studies (Dublin, Ireland)
[3]Bogoliubov Institute for Theoretical Physics (Kiev, Ukraine)

We consider supernovae at the Sedov phase and discuss the temperature equilibration between components in case of two component (electron-proton) postshock plasma. It is shown that the T_e to T_p ratio, calculated under the assumption of only Coulomb interactions between particles, is too small to satisfy observational values. Some estimates on the efficiency of required interaction are given.