

Improved COMPTEL maps of the Milky Way

H.Bloemen, W.Hermsen (SRON), R.Diehl, W.Collmar, A.Iyudin, A.W.Strong (MPE), V.Schönfelder (MPE), M.McConnell, J.Ryan (UNH), K.Bennett (ESA), J.Knödlseher (CESR)

COMPTEL has the capability of mapping the sky in the 1–30 MeV regime with an angular resolution of 1–3 degrees and an energy resolution of 5–10% FWHM. The data analysis is complicated by the dominant (time-variable) instrumental background and the complex response of the instrument. In mapping gamma-ray line emission, the removal of the celestial continuum radiation introduces another challenging problem. In order to study continuum point sources along the Milky Way (apart from pulsars), the diffuse emission has to be modelled out carefully. We have gradually learned how to deal more accurately with these important ‘background’ aspects. We demonstrate here our broad progress, presenting maps of e.g. the total galactic continuum emission, of (candidate) point sources, of the Al-26 1.809 MeV line, and of the Ti-44 1.157 MeV line. Also spectra of the galactic continuum emission and the cosmic background are extracted in this unified analysis technique of the COMPTEL data.