SOLAR ENERGETIC PROTON INTENSITY PROFILES AT 5 AU FROM THE SUN

S. Dalla (1), A. Balogh (1), B. Heber (2), C. Lopate (3) and R.B. McKibben (3)
(1) Space and Atmospheric Physics Group, The Blackett Laboratory, Imperial College, London, UK, (2) Department of Physics, University of Osnabrück, Germany, (3) Enrico Fermi Institute, University of Chicago, USA.

We compare Ulysses particle measurements for two large gradual solar energetic particle (SEP) events, which took place on 24 August 1998 and 20 January 1999. At these times the Ulysses spacecraft was close to the ecliptic plane and at ∼5.2 AU from the Sun. The two events are characterised by similar time intensity profiles for 40-100 MeV protons, both at Ulysses and at Earth orbit. However the profiles at Ulysses in the 1.3-2.2 MeV proton energy range are remarkably different, showing on 24 August 1998 a smooth long duration event, and on 20 January 1999 two small intensity enhancements. We use particle data from the Ulysses/COSPIN KET and ATs instruments, and from the IMP8/CRNC instrument. We discuss the possibility that the differences in intensity profiles in the ∼MeV range may be a spatial effect and analyse the role of sector boundaries and the spacecraft's magnetic connection to the corona in shaping them.