



Galactic cosmic ray flux in the mid of 1700 from ^{44}Ti activity of Agen meteorite

Carla Taricco (1,2), Neeharika Sinha (3), Narendra Bhandari (4), Paolo Colombetti (1,2), Salvatore Mancuso (2), Sara Rubinetti (1), and Dario Barghini (1)

(1) Università di Torino, Dipartimento di Fisica, Torino, Italy (carla.taricco@unito.it), (2) Osservatorio Astrofisico di Torino (OATo, INAF), Italy, (3) Wentworth Institute of Technology, Boston, USA, (4) Physical Research Laboratory and Basic Sciences Research Institute, Navrangpura, Ahmedabad, India

Cosmogenic isotopes produced by galactic cosmic rays (GCR) in meteorites offer the opportunity to reveal the heliospheric magnetic field modulation in the interplanetary space between heliocentric distances of 1 and 3 AU.

We present the gamma-activity measurement of Agen meteorite, a H5 chondrite that fell on September 5, 1814 in Aquitaine, France. Its ^{44}Ti activity reflects GCR flux integrated since the mid of 1700 to the time of fall and confirms the decreasing trend of GCR flux that we previously suggested on the basis of measurements of other meteorites which fell in the last 250 years as well as the centennial modulation of GCR due to the Gleissberg solar cycle. This result was obtained thanks to the high-efficiency and selective configuration of the gamma-ray spectrometer (HPGe+NaI) operating at the underground Laboratory of Monte dei Cappuccini (OATo, INAF) in Torino, Italy.