Radiation belt now-cast obtained from data assimilation into the Salammbo code

S. Bourdarie (1), D. Boscher (1), P. Nieminen (2), R. Ecoffet (3), P. Buehler, P. Stauning (4), M. Cyamukungu (5) , K. Stegen (6), D. Heynderickx (6)

(1) ONERA/DESP (bourdarie@onera.fr), (2) ESA/ESTEC, (3) CNES/CT, (4) DMI, (5) UCL, (6) BIRA

A series of Standard Radiation Environment Monitors (SREMs) are flyiing since 2002 and will fly over the next years (PROBA, Integral(IREM), Rosetta). In addition, a similar French instrument is flying on XMM and SAC-C and a Danish monitor is on Oersted. A large amount of useful data on the environment is being available in Europe and currently these data are properly analysed and exploited. With this data base, direct data assimilation is performed with the Salammbô electron and proton code and allows to interpolate between the measurement times, locations and energies, and to improve the now-cast of the radiation belts. Results obtained for proton radiation belts will be shown. In particular the formation of a second belt or sudden losses at the outer edge of the belt will be discussed.