



EU HELCATS Project WP7: Combining Observations of Interplanetary Scintillation (IPS) and Heliospheric Visible-Light Imaging of CMEs and SIRs for Space-Weather Purposes

Mario Mark Bisi (1), David Barnes (1), Jonathan Eastwood (2), Vratislav Krupar (2,3), Jasmina Magdalenic (4), Richard Harrison (1), Jackie Davies (1), and Richard Fallows (5)

(1) Science & Technology Facilities Council, RAL Space, Harwell Oxford, UK (mario.bisi@stfc.ac.uk), (2) Imperial College, London, UK, (3) Institute of Atmospheric Physics CAS, Prague, Czech Republic, (4) ROB, Brussels, Belgium, (5) ASTRON, Dwingeloo, The Netherlands

The Heliospheric Cataloguing, Analysis and Techniques Service (HELCATS) project is one of the European Union's Seventh Framework Programme (EU FP7) projects. The project is primarily targeted to the cataloguing of transient and background structures observed in the heliosphere by the visible-light Heliospheric Imagers (HIs) on board the twin spacecraft STEREO mission, including identification of their source regions and in-situ signatures. The current version of the HELCATS manually-generated Coronal Mass Ejection (CME) Catalogue contains more than 1,000 CMEs observed between 2007 and 2016, and the current HELCATS Stream Interaction Region (SIR) Catalogue contains signatures of nearly 200 co-rotating density structures in the ecliptic plane. HELCATS also includes an assessment of the complementary nature of ground-based radio observations of interplanetary scintillation (IPS), which is yielding catalogues of IPS features (from EISCAT/MERLIN/ESR and/or LOFAR data, where available) that are being compared to the STEREO HI catalogues. Here we discuss the near-final status of this aspects of HELCATS and provide any insights that have been gleaned from initial analyses of this joint cataloguing exercise. Such insights relate, in particular, to the space-weather exploitation of these two complementary observational techniques. For example, there are cases where a CME is imaged by the STEREO HI instruments but then not detected using IPS, and vice versa, and preliminary investigations of these will be discussed.