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Solar energetic electron events and their related radio emission signatures

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We present the results from the finalized two comprehensive catalogs of solar energetic electron events and their related radio emissions. The solar energetic electron events are detected by the ACE/EPAM instrument covering solar cycles (SC) 23 & 24 in the two energy channels, 103-175 keV and 175-315 keV. The related radio emission signature catalog represents the interplanetary radio emissions related to in situ electrons over two solar cycles, based on space-born and ground-based observatories. The utilized procedure of both catalogs for identifying the electron events, the association to their solar origin and the corresponding radio signatures are described. The statistical relationships between the energetic electrons and their origin (linear and partial correlation analysis) are discussed. The occurrence rates of different radio burst types - II, III or IV - in the interplanetary space related to solar energetic electrons are reported and discussed.

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