

# **A statistical survey of ULF waves observed by the Cluster satellites**

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We present a survey of ULF waves in the Pc3-Pc5 frequency band observed in the first five years of the Cluster mission. A wealth of ULF wave observations exist in the Cluster data set and this study aims at categorizing the different waves observed. We categorize systematically the characteristic properties of the waves, including: the magnetic local time and L-value where they are observed, their polarization and amplitude, the azimuthal wave number and when possible, the mode structure along the magnetic field. The time evolution of the wave envelopes is analyzed and discussed. The event duration may be interpreted either in terms of a finite lifetime or a finite spatial extent. In some cases these may be separated because of the availability of four spacecraft. We relate the observations to concurrent solar wind and geomagnetic data.