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## Global distribution of detected Wave Particle Interactions by the Cluster DWP/Correlator

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The DWP/correlator produces autocorrelation functions (ACF) of electron counts supplied from PEACE. One of the tasks of the Cluster mission for the DWP/correlator is to cope with the large amounts of data produced by the four spacecraft once it has been received on the ground.

We assume that particles within the plasma are randomly distributed when no wave or turbulence is present, and the counts can be described using a Poisson distribution in such a state. We have found ACF's with harmonic components, that have an amplitude who's significance makes it improbable that the detected signature can be due to a purely poissonic process. It was also found that these are thinly distributed in the time domain over short time scales ranging from1 hour to 1 day and therefore no spatial structuring could be seen.

To visualise the 'large scale' temporal and, most importantly, spatial distribution of these non-Poissonic ACF's we use Bryant Plots and other 2-dimentional representations of the magnetosphere, magnetosheath and solar wind, and look for any general or specific structure in the global morphology of wave particle interactions in the data when viewed over wide time periods of months to years.