



## **Magnetometer Data for the Ages: Achieving complete FGM instrument coverage of the multi-spacecraft Cluster mission (2000 to 2015+)**

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The calibrated dataset from the Cluster magnetometer instruments (FGMs) aboard the four Cluster spacecraft comprises an invaluable contribution to magnetospheric physics. It is also essential for the derivation of some datasets from other instruments, all of which have been made available through ESA's Cluster Science Archive (CSA). The FGM team at Imperial College – the PI institute that built and supports operation of the magnetometers – has regularly provided validated data to the CSA since its inception.

Now that other multi-spacecraft missions such as the Magnetospheric Multiscale Mission (MMS) have come online, it will be possible to make inter-mission as well as inter-spacecraft comparisons. The FGM team hopes to enable those comparisons by delivering magnetic field data from periods when the Cluster spacecraft are not otherwise taking science telemetry. These periods are becoming more common as the spacecraft age. Accomplishing this would also achieve near-complete magnetic field coverage throughout the Cluster mission. Preparation of these data to archival standards raises unusual challenges to be discussed in this presentation.