Laboratory experiments for AIM CDE noise analysis

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The Cosmic Dust Experiment (CDE) instrument on-board the AIM satellite is designed to measure the variability of the cosmic dust influx. To accomplish this objective CDE uses 12 polyvinylidine flouride (PVDF) impact dust detectors with a total surface area of $\approx 0.1m^2$. The AIM satellite is in a polar orbit with an approximate period of 95 minutes giving rise to temperature variations experienced by the CDE detectors of approximately -35 to 40 ° C. Since PVDF also has pyroelectric properties, this variation in temperature is suspected as an external noise source for the CDE instrument. This talk will focus on the lab experiments conducted to verify this theory and the integration of those findings into the science data reduction scheme.