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OUT GASSING MEASUREMENTS USING QUARTZ CRYSTAL MICROBALANCE IN SITU WITH
VACUUM MICROBALANCE.**Abstract**

Out gassing tendency exhibited by polymeric materials being used for Satellite Payloads is very detrimental for functional performance of both LEO and Communications Satellites. Optical elements in LEO satellites are affected by volatile condensable mass losses coming out of polymeric materials in question. So also in case of communications satellite, it can affect the electrical paths due short circuiting. Attempts are made to configure the set up comprised of Quartz Crystal Microbalance and Vacuum Microbalance, backed up with a clean vacuum system. The accuracy of the instrumentation developed is one order better than the requirements spelled out in ASTM E 595: 2003. The set up is extensively being used for the screening of materials and components being used for Indian Remote Sensing Satellite and INSAT/GSAT/RISAT series of satellites. This instrumentation is very reliable and accurate and avoids human touch while the measurements on Total Mass Loss and Collected Volatile Materials Losses are being done. This being a unique custom made instrumentation and it is not available commercially.