

# Development of multipurpose soft x-ray tomography system for ADITYA-U.

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A Multipurpose Soft X-Ray tomography system is under development for Aditya-U.

- ❖ Proposed diagnostics system is capable of measurement of m=3 mode structure.
- ❖ It consist four SXR tomography camera having specific detector array arrangement to fulfil task of Soft X-Ray Tomography.
- ❖ System will have 96 photodiode detector work in soft x ray range (0.1keV-30keV).
- ❖ At present one of four SXR tomography camera has been developed and installed in Aditya.
  - ❖ This SXR tomography camera consists of two AXUV photodiode detector array of 16 detector element in each array.
  - ❖ This SXR tomography camera provides measurement of spatial and temporal evolution of Soft X-Ray intensity. System has spatial resolution 2cm and Temporal resolution 10 micro second.
  - ❖ ***Measurement of chord average electron temperature up to 16 channel using absorption foil/Ratio measurement technique. System covers (r-11 cm to r+11 cm ) region in radial plane.***
  - ❖ ***This system gives measurement of plasma column movement in radial direction. This measurement are validated with magnetic diagnostics as well as confirmation with optical camera.***
  - ❖ ***Spatial evolution of sawtooth activities during plasma discharge is now possible to study along with other MHD activities .***