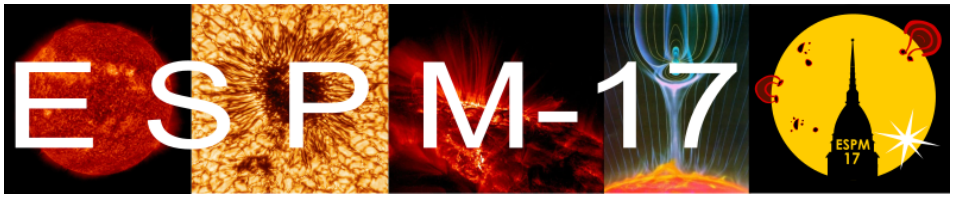

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Spectral diagnostics of the solar corona

In most cases, the best spectral diagnostics to measure electron densities / temperatures, chemical composition and non-equilibrium effects in coronal plasma have not been explored at all or only partially (with e.g. little spatial/temporal information).
A few examples, from the X-rays to the infrared are provided, with suggestions for future instruments.

New EUV diagnostics for the outer corona, related to resonance photoexcitation effects are presented, together with new programs and atomic data made available to the community via CHIANTI-VIP, a new member of the CHIANTI family.

New atomic data, line identifications and models for X-ray satellite lines of Fe XVII are also presented. They appear to resolve long-standing problems in some of the strongest X-ray lines. A few problems were known but others were only recently highlighted by the first solar X-ray spectral imaging obtained by the MaGIXS sounding rocket, which indicated a factor of two missing flux around the resonance line.

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Track Classification: Diagnostic tools and numerical methods in solar physics