

Abstract Submitted
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Electron Temperature features of RFP DAX states ALESSANDRO FASSINA, Consorzio RFX, PAOLO FRANZ, ALBERTO RUZZON, ALBERTO ALFIER, MARCO GOBBIN, LIONELLO MARRELLI, EMILIO MARTINES, BARBARA MOMO — RFP states characterized by the presence of an hot helical structure in the plasma core have shown a significative improvement in the plasma performances. In this work we focused on DAX (Double AXis) states, in which the hot island is surrounded by a separatrix and does not cross the plasma centroid. These states, with respect to SHAx –or Single Helical Axis, [1]- , show smaller thermal structures, but the ∇T_e strength suggests a drastic local reduction of energy transport. The analysis relies on data obtained by the Main Thomson Scattering [2] and by the multichord double filter SXR spectrometer [3]. The general scaling properties of local ∇T_e are presented and the results are compared with SHAx datasets; overall confinement changing is analyzed relying both on T_e and n_e data. Finally, being data remapping on helical coordinates a widely used tool in SHAx analysis, limits and possibilities of this technique for DAX states are discussed.

- [1] Lorenzini R. et al., Nature Physics **5**, 570 - 574 (2009)
- [2] Alfier A., Pasqualotto R., Rev. Sci. Instrum. **78**, 1 (2007)
- [3] Bonomo F. , Rev. Sci. Instrum. **77**, 10F313 (2006)

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