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Initial Exploitation of RFX-mod at 1.8 MA Plasma Current R. CAVAZZANA, S. DAL BELLO, P. FRANZ, R. LORENZINI, G. MARCHIORI, G. SPIZZO, M.E. PUIATTI, M. SPOLAORE, D. TERRANOVA, N. VIANELLO, L. ZANOTTO, Consorzio RFX - Padova, Italy, RFX-MOD TEAM — The recent remarkable results [1] of RFX-mod in the 1.5 MA range push forward the exploration of the confinement properties of Reversed Field Pinch (RFP) magnetic configuration at even higher current. During the first exploration campaigns aimed at increasing the plasma current, discharges beyond 1.8 MA have been obtained, highlighting the key issues needed to bring RFX-mod in the 2 MA current range: the most effective start-up and current ramping scheme; the conditioning of the graphite first wall in order to limit the hydrogen influx and the impurity concentration; the optimization strategy needed for tuning the active MHD mode control system (192 actuators, full coverage), aiming at the mitigation of plasma wall interaction still preserving the Helical States and their good confinement properties.

[1] Lorenzini R. et al. *Self-organized helical equilibria as a new paradigm for ohmically heated fusion plasmas* Nat.Phys. 2009 - doi:10.1038/nphys1308.

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