

Abstract Submitted
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Oscillating and pulsed poloidal current drive experiments in RFX-mod DAVID TERRANOVA, TOMMASO BOLZONELLA, Consorzio RFX, Euratom-ENEA Association, Padova, Italy, BRETT CHAPMAN, University of Wisconsin, Madison, WI, USA, LORIS ZANOTTO, ALBERTO ALFIER, FEDERICA BONOMO, PAOLO SCARIN, GIANLUCA SPIZZO, BARBARA ZANIOL, MATTEO ZUIN, Consorzio RFX, Euratom-ENEA Association, Padova, Italy — The reversed field pinch (RFP) configuration is based on a delicate balance between the minimum amount of magnetic fluctuation required to sustain the configuration and its negative effect on transport. Pulsed and Oscillating Poloidal Current Drive (PPCD and OPCD) techniques aim at controlling the level of MHD fluctuations by providing externally the flux necessary to maintain the reversed configuration. PPCD experiments were successfully applied to all presently operating RFPs, though by its own nature it provides transient effects. On the other hand OPCD experiments done on RFX proved to be a good technique to extend the beneficial effect of the PPCD along the whole discharge. Both techniques were applied also in the new RFX-mod device (operated in the virtual shell scenario) with good results in terms of plasma performances and reduction of MHD fluctuation along with changes in its spectral composition. In particular, thanks to the flexible toroidal power supply of RFX-mod we could study OPCDs with oscillations characterized by different frequencies, waveforms and amplitudes.

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