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Impurity transport in enhanced confinement regimes in RFX-mod Reversed Field Pinch LORELLA CARRARO, SHEENA MENMUIR, ALESSANDRO FASSINA, Consorzio RFX, Associazione EURATOM-ENEA sulla Fusione, Padova, Italy — The results of impurity transport studies in RFX-mod enhanced confinement quasi-single helicity (QSH) and single helical axis (SHAx) regimes are presented and discussed. The impurity diffusion coefficient and pinch velocity are obtained through comparing experimental emission pattern (line emission and SXR time evolutions, SXR profiles) with the results of a 1-D impurity transport code. Previous analysis [S. Menmuir et al. to be published in Plasma Phys. Contr. Fus.] of impurity transport in RFX-mod standard discharges showed that the impurity pinch velocity, always directed outwards, features a barrier with high values around r/a = 0.8, where the diffusion coefficient decreases by one order of magnitude. In the QSH regime, the transition region in D and v is more internal and the barrier in velocity is wider and stronger. New results have been obtained in experiments with Ni laser blow-off (LBO) injection in high current discharges (Ip>1.5 MA) with long lasting QSH, to better characterize the Ni behavior inside the helical magnetic topology.

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