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Magnetic reconnection and Alfvén eigenmodes in the RFX-mod reversed-field pinch plasmas SILVIA SPAGNOLO, Consorzio RFX, Associazione EURATOM-ENEA sulla Fusione, Padova, Italy and Dipartimento di Fisica G. Galilei, Università degli Studi di Padova, Italy, MATTEO ZUIN, ROBERTO CAVAZZANA, GIANLUCA DE MASI, EMILIO MARTINES, BARBARA MOMO, MONICA SPOLAORE, NICOLA VIANELLO, Consorzio RFX, Associazione EURATOM-ENEA sulla Fusione, Padova, Italy — The effect of the spontaneous magnetic reconnection events, characterizing reversed-field pinch plasmas, on Alfvén eigenmodes (AE) is studied in the RFX-mod device by means of insertable edge magnetic probes. In particular, reconnection is observed to induce a sudden growth of the amplitude of the long wavelength ($m/n=1/0$), high frequency (around 1 MHz), Alfvénic activity (appearing as two peaks in the frequency power spectra), interpreted in terms of two coupled Global AE, being associated to the presence of a minimum in the Alfvén continuum. The dynamical behavior of the amplitude of such modes suggests some hints on a possible driving mechanism in ohmically heated plasmas, which should be linked to the formation of a high energy particles tail during reconnection. Moreover, the behavior of mode frequencies allows a radial localization at the edge of the plasma.

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