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On the links between magnetodisc perturbations and radio emissions at Jupiter.

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We first review measurements made by the Galileo energetic particle detector (EPD), the magnetometer (MAG) and the plasma wave/radio instrument (PWS) to establish relationships between various dynamic processes occurring in the jovian magnetosdisk and in Io torus: (1) the 'energetic-events' or 'radio events' seen with PWS [*Louarn et al.*, 1998]), (2) in-situ signatures of reconnection seen by the magnetometer and EPD (the 'reconfiguration-events' [*Kronberg et al.*, 2005, *Vogt et al.*, 2010]), at 80-100 R_J and, (3) particle injections seen at 10-20 R_J [*Mauk et al.*, 1999, *Louarn et al*, 2014]. We then present new analysis attempting to characterize the density/magnetic perturbations of the magnetodisk that may be related to these major disturbances. They are based on PWS and MAG observations made in the magnetodisk itself, at distances ranging from 20 to ~70 R_J. It is shown that the radio events generally correspond to increases of the plasma content of the disk (which is deduced from measurements of the upper hybrid frequency). In a few cases, it is observed that the magnetic field deviates off the meridian plane, with an azimuthal component that becomes significant. This suggests that an enhanced magnetosphere/ionosphere current system enforces the co-rotation of the more massive disk. The link between this possible enhanced current system and more powerful radio emissions is discussed.