

Magnetic topology, plasma upflows and radio noise-storms: Their parallel evolution

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Abstract / Hinode's EUV Imaging Spectrometer (EIS) has discovered ubiquitous upflows from active regions (ARs). These outflows are most prominent at the AR boundary and appear over monopolar magnetic areas. They are linked to strong non-thermal line broadening and are stronger in hotter EUV lines. A remarkable characteristic is their persistence for several days. We use Hinode EIS, magnetic field maps and radio observations, coupled with magnetic field modeling and topology computation to demonstrate the causal relation between magnetic field - topology - upflow - radio noise-storm evolutions for the transit from limb to limb of a bipolar isolated AR.

Keywords / Sun: magnetic fields, Sun: corona, Sun: EUV emission, Sun: radio noise-storms

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