

Meudon/CNRS contributions from November 2011 to May 2012

N. Vilmer; H. Reid

List of papers:

-Solar Flares and Energetic Particles: Nicole Vilmer

Review of energetic particles at the Sun from X-ray/ $\gamma$ -ray observations  
(RHESSI/INTEGRAL)

Combined radio observations (decimetric to hectometric): electron acceleration sites, origin and propagation of energetic particles in the interplanetary medium

Brief review on theories of particle acceleration in flares. How to connect particle acceleration processes to the magnetic topology?

*Philosophical Transactions of the Royal Society A , in press (HESPE)*



HESPE-Meeting  
9 May 2012

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List of papers:

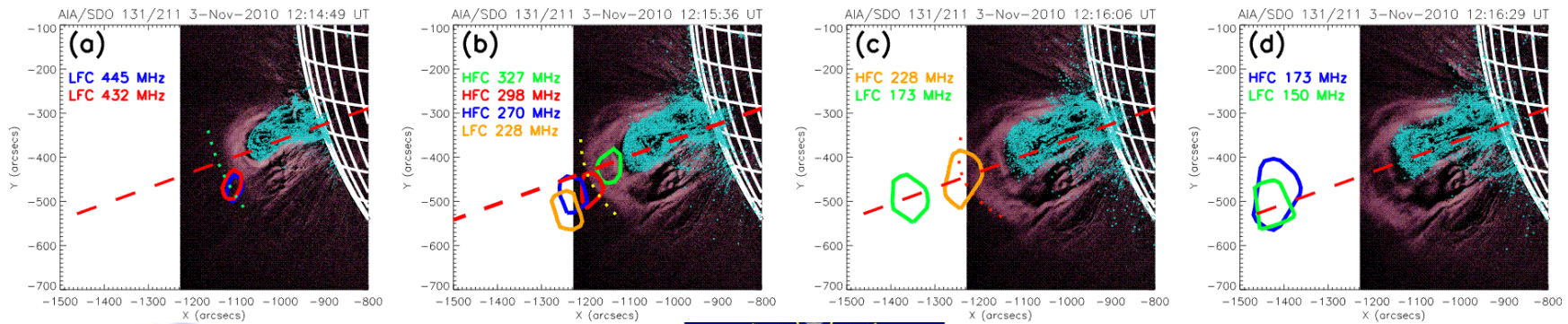
-Spatially resolved observations of a band-split coronal type II burst (Zimovets (IKI) , Vilmer... (HESPE connection?)  
*A&A submitted*

*A&A submitted*

Origin of coronal type II burst (piston?, blast wave?)

Nature of the band splitting: emission upstream and downstream

NRH, SDO/AIA, RHESSI



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- A decade of solar type III radio bursts observed by the Nançay Radioheliograph  
(Saint Hilaire, Vilmer, Kerdraon (HESPE connection?))

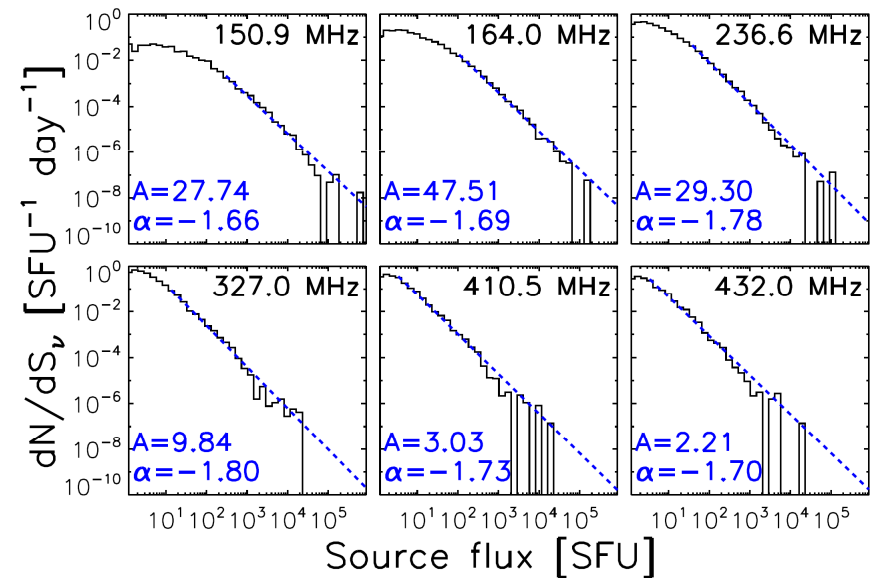
*ApJ Submitted*

Statistical survey of 10000 radio bursts observed with the NRH from 1998 to 2008

Distribution of source sizes

Distribution of source fluxes

East-west asymetry of sources (tilt of 6° of B)...



Laboratoire d'Études Spatiales et d'Instrumentation en Astrophysique



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- X-ray and UV investigation into the magnetic connectivity of a solar flare  
(*Reid, Vilmer, Aulanier, Pariat A&A submitted*)  
HESPE related

See Hamish's talk

- Evolution of the Solar Flare Energetic Electrons in the Inhomogeneous Inner Heliosphere  
(*Reid, Kontar Solar Physics, in press*)  
HESPE related

See Hamish's talk



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### Projects:

-Characteristics of flare acceleration region (height, vertical extent) from simultaneous observations of X-ray spectral indices and starting frequencies of type III bursts. (work in progress Reid, Vilmer, Kontar)

See Hamish's talk

-Routine implementing combination of X-rays and radio lightcurves and radio spectra in a wide frequency band (specifically: automatic creation of fits files for RHESSI and NRH; automatic selection of the time range) (work in progress)

routine implementing combination of X-ray and radio images (to be started)



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