



20–22 April 2008 Observatoire de Paris – Meudon

STEREO SWG & Science WORKSHOP

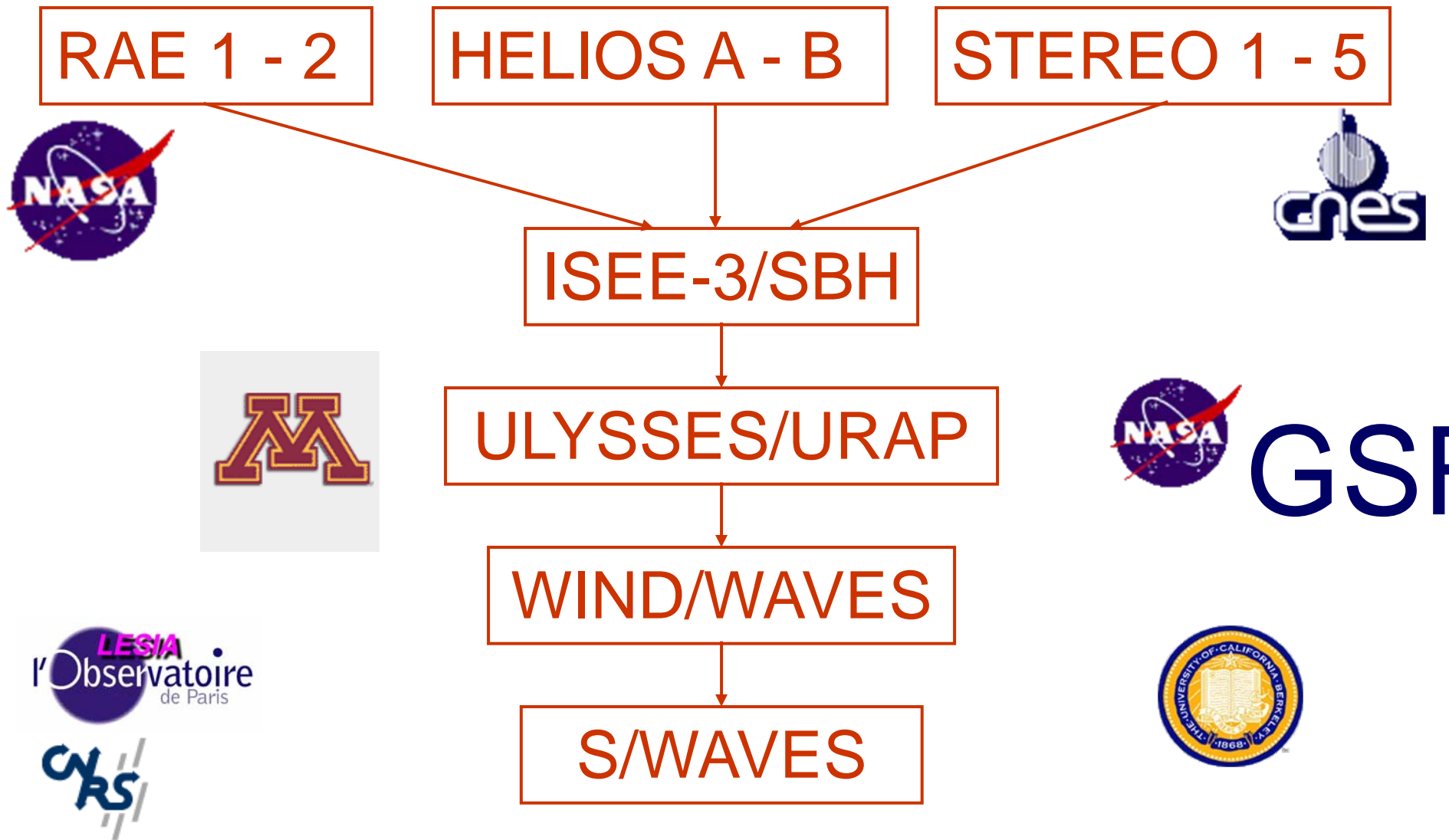
S/WAVES status report

STEREO / WAVES

J.-L. Bougeret, Keith Goetz, Mike Kaiser, Paul Kellogg,
Milan Maksimovic, Stuart Bale

Bob Manning

Nicole Monge, Cathie Meetre, Steve Monson, Moustapha Dekkali, Stéphane Davy,
Pierre-Luc Astier, Cécile Guériau, Quynh-Nhu Nguyen, Nicole Letourneur....





- S/WAVES instrument status
- Calibrations and direction finding status
- Science data products and data access
- Science status
 - Research areas
 - Publications and talks
 - Prospects
- E/PO

**S/WAVES team meeting
on Wednesday, April 23**



S/WAVES instrument status

- Both instruments continue to function nominally
- We continue to see lots of “dust”
 - especially prominent and puzzling on A.
- The operations team at APL continues to give very good service:
 - in getting bits to the ground;
 - in getting commands sent up;
 - in dealing with "situations" from time to time.

Calibrations and direction finding status

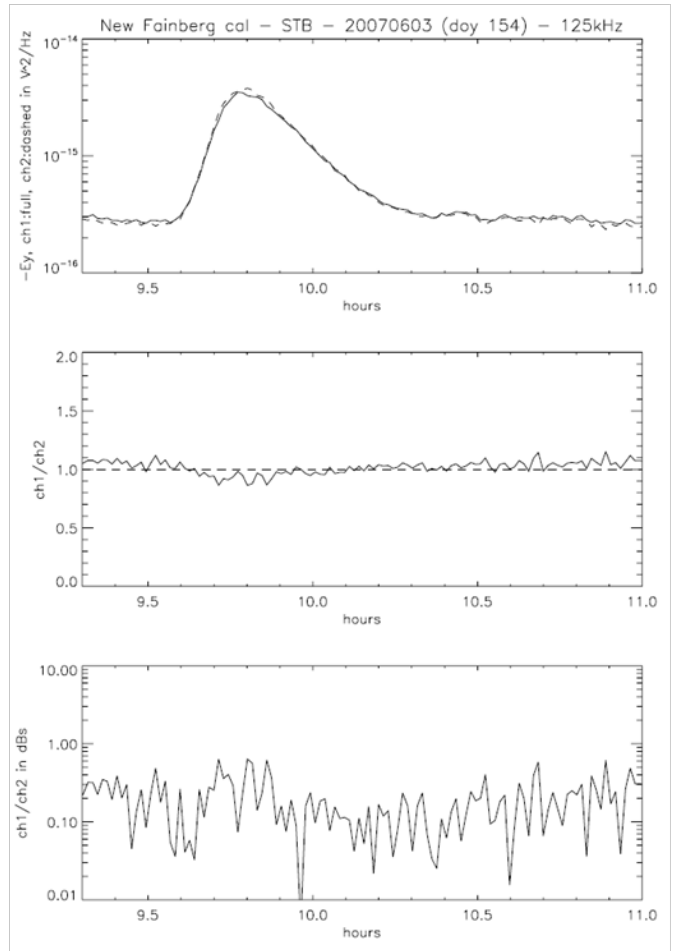
Inter calibration
 between receiver 1 & 2, on STB

Fundamental for direction finding
 (Auto & cross-correlations between
 two antennas)

Ratio close to 1



Agreement to about 0.5 dB



Science data products and data access

- Data products
 - At GSFC
 - At CDPP, Toulouse

<http://cdpp.cesr.fr/>



CENTRE DE DONNEES DE LA PHYSIQUE DES PLASMAS

Data

- .. Choose Data
 - > By navigation
 - > By keywords and criteria
 - > By quicklooks
- .. My Selection
 - > View selection
 - > Reset selection
 - > Previous orders
 - > Saved orders
- .. My workspace

Services

- .. Documents
- .. Event tables
- .. Orbit viewer

User

- .. Logout
- .. Update profile
- .. Change password
- .. License
- .. Contact

You are here : Start page → Data selection

Datasets archived at CDPP are listed below (sorted by **missions** then **experiments** or **instruments**). Information related to a mission, an experiment (or an ins

Data selection

Please select the data sets to order in the tree below.

- Missions
 - ARCAD-3 Mission
 - CLUSTER Mission
 - DEMETER Mission
 - European GEOS Mission
 - INTERBALL Auroral and Tail Mission
 - ISEE3/ICE Mission
 - STEREO Mission**
 - S/WAVES Experiment**
 - DEF_H_RES : Definitive High Resolution Data (LFR, HFR and FFR Receivers)
 - DEF_AVERAGE : Definitive Averaged Data (LFR and HFR Receivers)
 - DEF_GRAPHS : Definitive Graphs (Dynamic Spectra)
 - PRE_H_RES : Preliminary High Resolution Data (LFR, HFR and FFR Receivers)
 - PRE_AVERAGE : Preliminary Averaged Data (LFR and HFR Receivers)
 - PRE_GRAPHS : Preliminary Graphs (Dynamic Spectra)
 - ULYSSES Mission
 - Swedish VIKING Mission
 - WIND Mission
 - EISCAT Radars
 - Geomagnetic Indices

- Ground-based data
 - <http://secchirh.obspm.fr>
 - images of radio corona, films, spectra
 - includes 3-hour zoom on S/WAVES HFR data



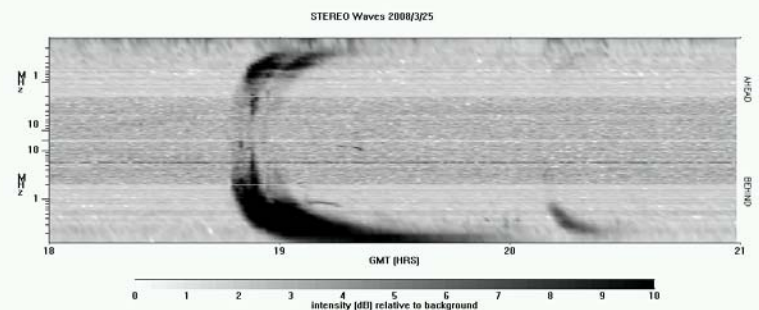
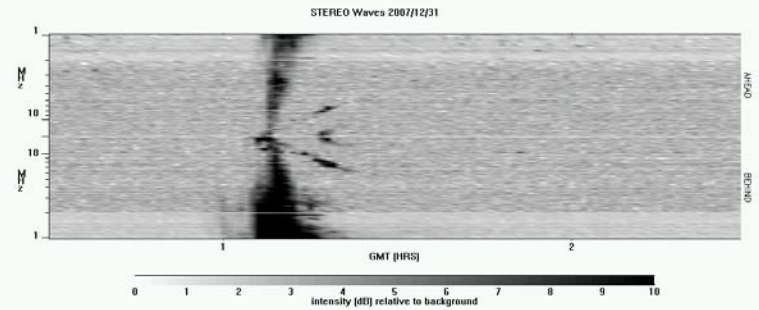
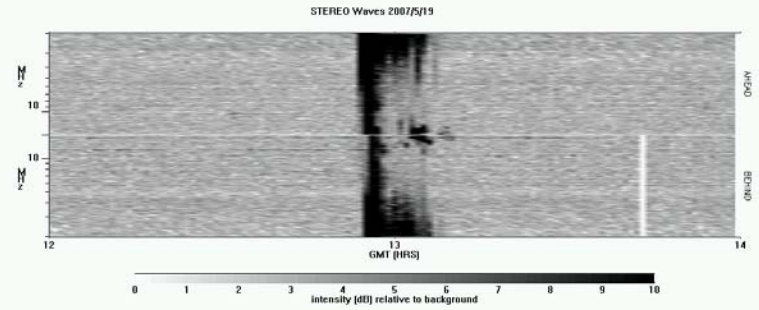
Science status: research areas

- Tracking of radio events (Sun is very quiet)
 - Electron streams (type III): sporadic, storms
 - IP Shock waves (type II), CME associated
- Coordinated science
 - SECCHI, IMPACT, PLASTIC
 - WIND and RHESSI
- Magnetospheric physics
- In situ micro-physics, turbulence
- Serendipitous science results
 - Strong whistler waves in the radiation belts
 - Interplanetary dust

Tracking interplanetary type II shock events

The Sun
 continues
 to be quiet!

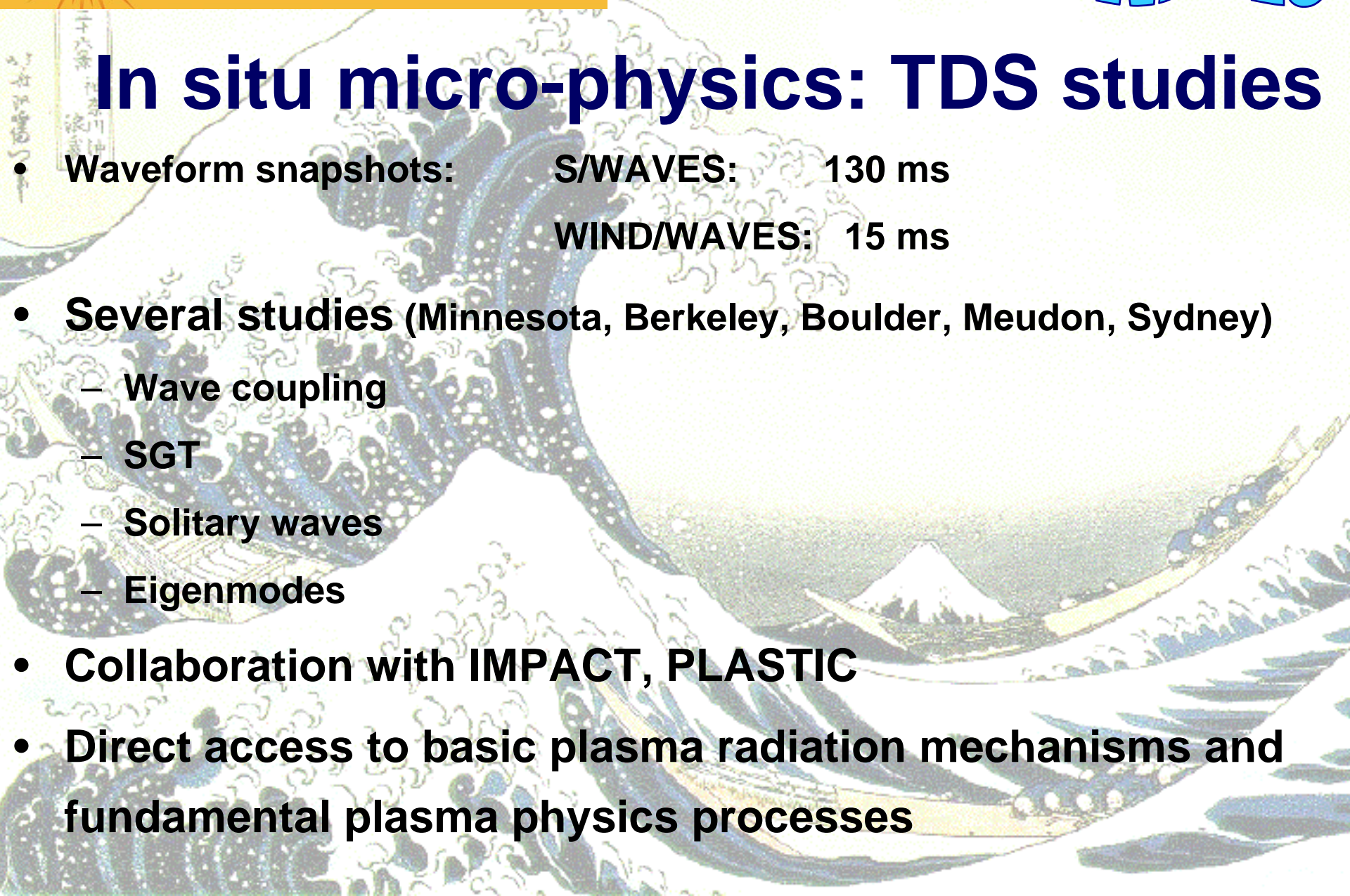
Still,
 we have observed
 a few type IIs





In situ micro-physics: TDS studies

- **Waveform snapshots:**
 - S/WAVES:** 130 ms
 - WIND/WAVES:** 15 ms
- **Several studies** (Minnesota, Berkeley, Boulder, Meudon, Sydney)
 - Wave coupling
 - SGT
 - Solitary waves
 - Eigenmodes
- **Collaboration with IMPACT, PLASTIC**
- **Direct access to basic plasma radiation mechanisms and fundamental plasma physics processes**





Publications, talks and topics

<http://www.lesia.obspm.fr/plasma/SWAVES/fr/pages/resultats/publications.php>

Topics:

- Type III direction finding – first results (Reiner, Cecconi, Maksimovic et al.)
- Type III emission diagram (Bonnin et al.)
- Type III storms (Eastwood et al.)
- Type III - X-rays with RHESSI (Krucker et al.)
- Foreshock Langmuir waves and electrons (Pulupa et al.)
- SW turbulent correlation lengths (Bale et al.)
- Dust (Kaiser, Goetz et al.)
- Ne from shot noise (Zouganelis et al.)
- Langmuir waves mode conversion (Henri et al.)
- Langmuir waveforms modeled as linear eigenmodes (Ergun et al.)
- AKR visibility & emission diagram (Panchenko et al., Lamy et al.)



Websites

- General

<http://www.lesia.obspm.fr/plasma/STEREO.htm>

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<http://swaves.gsfc.nasa.gov/>

- Distribution list:

swaves@listserv.gsfc.nasa.gov

swaves@sympa.obspm.fr

- Secure website and forum:

<https://sympa.obspm.fr/www/info/swaves>



Science prospects: 90° and beyond

- Role of WIND/WAVES
- Radio and white light “orthogonal”:
 - Radio sees head front events best
 - White light sees limb events best
- Access to 360° radiation pattern
- Evolution of the “dust question”



E/PO

- In France and Europe:
 - Organization of IHY Open Door Day (10 June '07)
 - Participation to exhibits on Space ☐ Weather
 - Conferences (schools, general public,...)
 - *More to come*