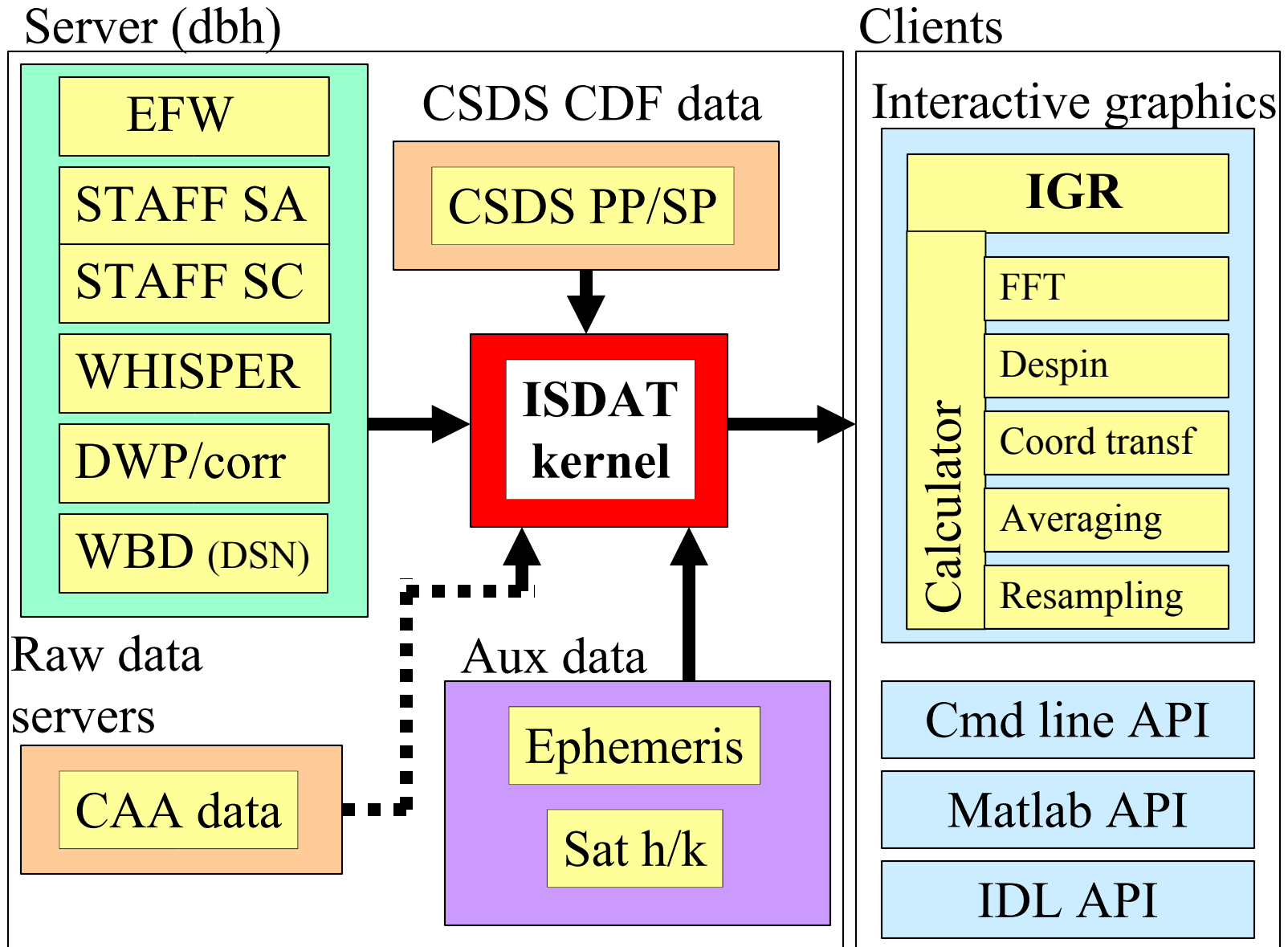


WEC ISDAT

- Tool for handling, analyzing and displaying full resolution WEC data (and CSDS PP/SP)
- WEC-common solution to WEC-common problems like despinning, averaging, joining, ...
- Provide APIs for scientific client construction

WEC ISDAT



Cluster relevant Isdat development 2005-2006

- TED: reverted to 2.4.3
 - Back on current CVS
- WEC server
 - Memory leaks cured (YK and RG)
 - Crash root cured (YK)
- EFW server
 - Sweep calibration (BL)
 - Sweep debugging (BL)
- CAA server
 - Initiated (BL), not yet on CVS

EFW Vsc from PP (CDF files)

EFW full resolution E-field, despun to GSE, x and y components, averaged to 4 s resolution

EDI E-field from PP (CDF)

EFW Ey from PP (CDF)

FGM |B| from PP (CDF)

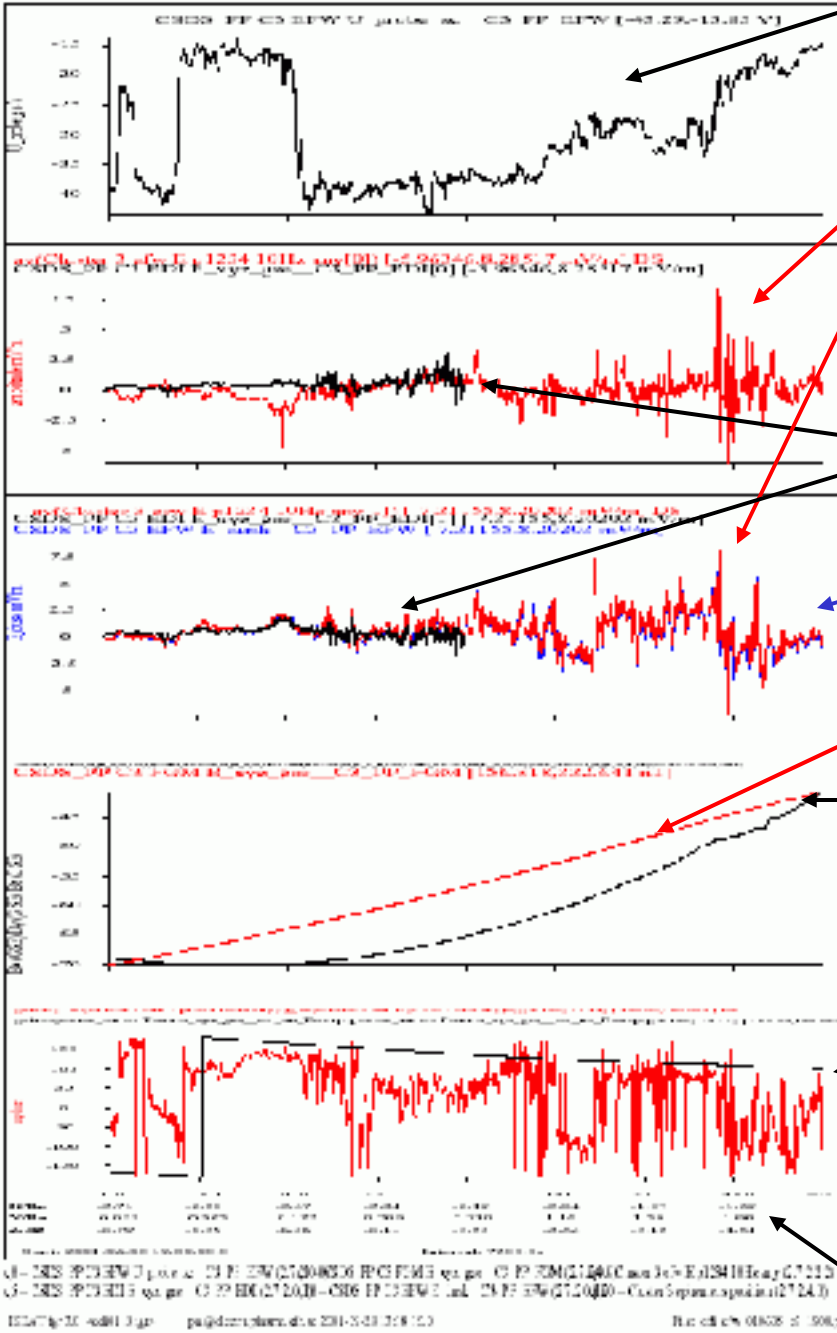
FGM B (PP) elevation angle, derived in IGR calculator as $\text{atan2}(B_z/\sqrt{B_x^2 + B_y^2})$

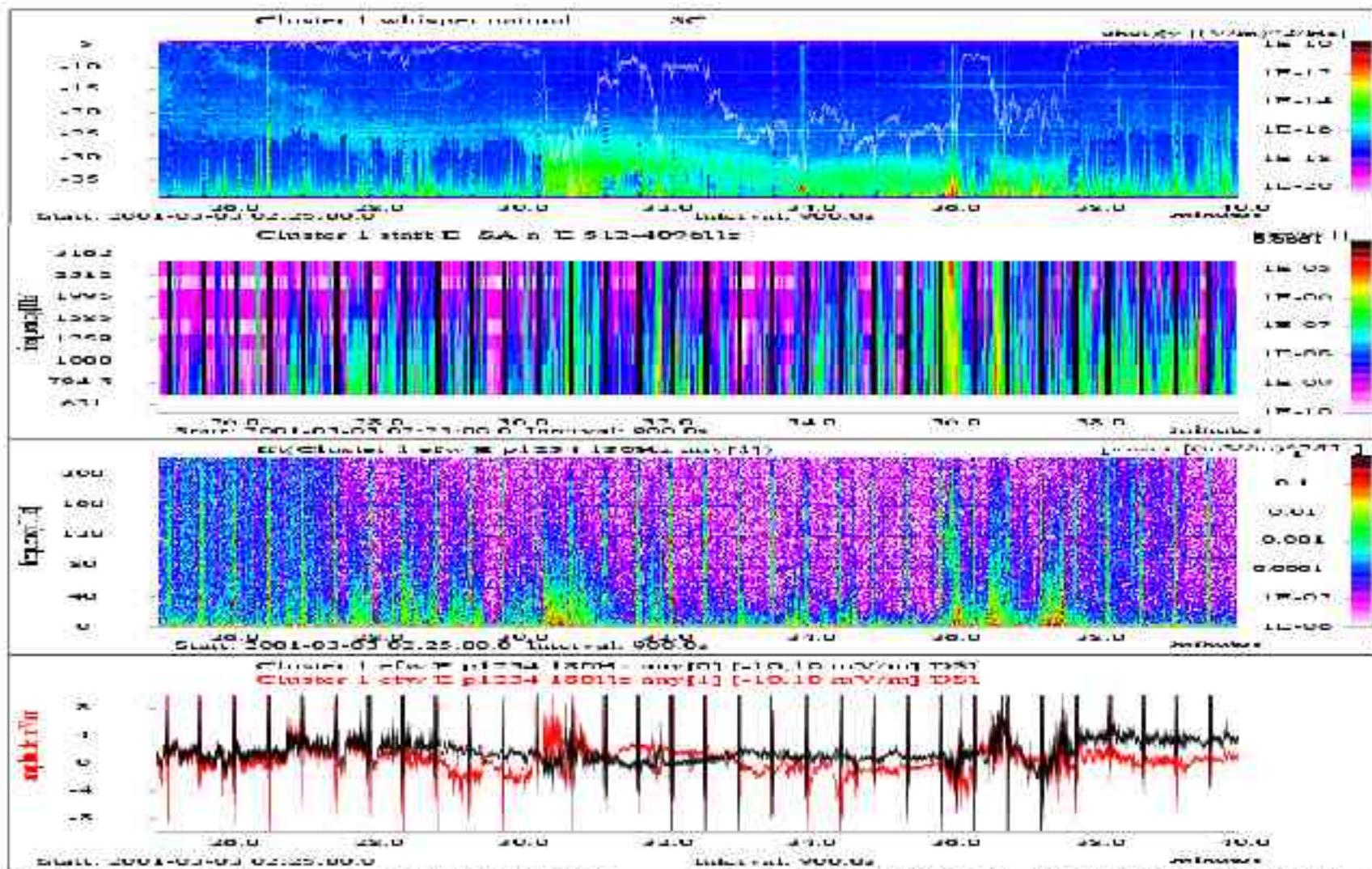
FGM (PP) and EFW (full res) field directions in spin plane, $\text{atan2}(E_y/E_x)$, EFW av to 4 s

GSE coord labels

X

Y





a) Cluster 1 whisper normal (07.11) b) Cluster 1 stat I 5A n I 512-4096Hz (07.11) c) Cluster 1 stat I 5A n I 512-4096Hz (07.11) d) Cluster 1 stat I 100Hz n I 12044-12044Hz (07.11)

WEC ISDAT status

Module	Works	Testing	Planned	Comments
Isdat core	x			
TED	x			Timing upgrade
WEC server	x			No plotting over NM/BM boundaries
EFW server	x			Issues: Burst timing, sweeps, HK
STAFF SA	x			
STAFF SC	x			
WHISPER	x			
WBD	x			Filter calibration needed
DWP	x			
Ephemeris	x	y		y = with magnetic coordinates
IGR	x			
Math operators		x		sqrt, acos, atan2, ...
FFT operator	x			
Despin operator	x			
Coord transf		x		
Averaging		x		
Resampling		x		

Status (contd.)

Module	Works	Testing	Planned	Comments
ISCMD	x			Command line utility
C API	x			
Matlab API	x			Now with single-command interface
IDL API	x			
WEC HK	x			Low level data

General status

- Isdat maintainer: Reine Gill
- Runs on most Unix systems, including Linuxes, Solaris, MacOS X, FreeBSD...
- Continuous development
- Memory consumption issue
- Some modules not fully stable
- Used in Uppsala also for Cassini, Freja, Viking, Astrid II, Rosetta ...

EFW Isdat server status

- Server module stable
- Matlab I/f widely used
 - Set of Matlab routines available
- General limitations
 - No derived/corrected quantities available from server: all done in clients
- To be improved
 - Burst timing: now requires standalone s/w
 - Sweeps: buggy implementation
 - Probe offset handling
 - Housekeeping data access rudimentary