Data Analysis Working Group

Annual Report 2022

Chairs: Emma Bland & Kevin Sterne

Members

Co-chairs: Emma Bland & Kevin Sterne

Emma will step down as the scientific chair of the DAWG later in 2022

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Members:
- **PI representative:** Tim Yeoman
- **Other PIs:** (none)
- **Scientists:** Daniel Billet, Emma Bland, Angeline Burrell, Igino Coco, Pasha Ponomarenko, Evan Thomas, Maria-Theresia Walach
- **Engineers:** Kevin Sterne, Jordan Wiker
- **Computer scientists:** Marina Schmidt (until April 2022)
- **Students:** (none)

RST updates

Two minor releases:

- RST 4.6 (August 2021)
- RST 4.7 (April 2022)

Highlights:

- Updated C and IDL code for reading the new hardware file format
- Routine to list the transmission frequency bands present in a fitacf file
- New functionality and documentation for the data simulator
- Routine for removing non-gaussian noise/interference from fitacf files
- Numerous updates to plotting libraries

Future plans:

- If feasible, call all ACF fitting algorithms (fitacf, lmfit, fitex) with command line options in make_fit (replaces separate binaries)
- Provide more descriptive elevation angle field names for FitACF 3.0 data (replace elv_high & elv_low with elv_fitted & elv_error)
- Determination of backscatter direction of arrival (front or rear FOV)

FitACF 3.0

FitACF 3.0 has been accepted as the standard fitting algorithm for producing fit-level data.

This is the version that is actively developed.

FitACF 2.5 will continue to be included in the RST.

FitACF 2.5 is currently the 'default' fitting algorithm called by make_fit.

In the future there will be no default version.

Communication

Regular updates on DAWG website: https://superdarn.github.io/dawg/reports/

Productive discussion about communication during the PI/WG Chairs' meeting on 1st June

We welcome input from all members of the SuperDARN community. Anyone is welcome to attend our meetings and suggest discussion topics. Meetings are announced on the darn-dawg mailing list.

Thanks to everyone who has contributed this year!