

# Data Analysis Working Group Charter

## Mandate:

Maintenance, improvement, and distribution of the core data analysis procedures/software.

## Responsibilities:

The scope of the Data Analysis Working Group (DA-WG) is to provide oversight of the core analysis software that generates the key SuperDARN data products. The core software includes following packages from the Radar Software Toolkit (RST)

- *fitacf*: estimating power, velocity, spectral width and their errors from fitting autocorrelation functions (ACF);
- *map\_potential*: generating global plasma circulation (“convection”) maps based on statistical model and H-M boundary selection by fitting spatial distribution of velocity estimates provided by *fitacf*;
- all other software and algorithms essential for functionality of the above packages (e.g. mapping the SuperDARN data into geographic and geomagnetic coordinates, etc).

The WG is responsible for distributing the core routines in RST (current version RST 3.5), which includes

- approving and implementing upgrades/changes to the RST;
- checking that the new RST will install on common platforms;
- offering technical assistance to users.

It is expected that new versions of RST will be made available by GitHub distribution and will be announced via the SuperDARN-user mailing list.

## Demarcation of responsibilities with other WGs:

The DA-WG scope does not extend to the on-site software that controls the radar hardware and generates the “raw” data files (rawacf, iqdat) for download to the PI institution; this responsibility is assigned to the Operating Software Working Group (OS-WG). Nor does it extend to the higher-level software developed by various users to support scientific analysis, although such software could be admitted to the core upon recommendation of this WG and approval by the PIs. (Examples of higher-level software are the routines distributed by the Virginia Tech group in the DavitPy package.)

## DA-WG membership:

1. The chair of the WG is appointed by the PIs’ committee.
2. The WG can be joined by any other members of SuperDARN community willing to participate in its activities.
3. To facilitate the group’s functionality, there should be at least two permanent members of the WG, the chair and the vice-chair who share responsibilities in running the group.
4. The authors of the proposed changes to the analysis procedures should be encouraged to join the WG for the duration of their submission’s processing (or longer).