
Subject: array averaging

Posted by [Lasse Clausen](#) on Thu, 13 Aug 2009 08:49:34 GMT

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Hi there,

I have particle distribution functions measured by a spacecraft in a 4D array. The dimensions are energy, azimuth, polar angle and time. This array contains NaNs. I would like to average over, say, all azimuthal angles such that I get a 3D array. The totalling up is easily done like so

```
PSD          FLOAT    = Array[31, 16, 8, 2693]
tot_azi_psd = TOTAL(psd, 2, /NAN)
```

However, I need to divide this number by the number of non-NaN values in each, well, column, row, whatever you like to call it, of azimuths. I struggle to find an easy way to determine this without looping through all dimensions. Obviously, I can find the indices of the NaN using WHERE, but so far that doesn't help me.

Any ideas?

Cheers

Lasse Clausen

PS: The MEAN function has a /NAN switch, but unfortunately no dimension keyword.
