Subject: 4D interpolation
Posted by Maarten[1] on Wed, 22 Mar 2006 15:19:11 GMT
View Forum Message <> Reply to Message

This must have been asked before, but a search on Google in this group, as well as the usual sites and code repositories didn't return something of interest.

I think I need a 4D interpolation to get from a viewing geometry and a cloud optical thickness (solar azimuth angle, viewing azimuth angle, azimuth difference and tau) to a reflectance by means to a look-up table:

R = R (tau, sza, vza, azimuth_diff) (28 x 82 x 82 x 19 elements)

The standard interpolate function is helpful up to three dimensions, and returns interpolated results for each cloud optical thickness. I think I cloud again interpolate within this result, but I'm unsure how to proceed. Warning sinful direct for loop ahead (the fractional indices *_frac_idx are created beforehand):

result = interpolate(R, vza_frac_idx, sza_frac_idx, azi_frac_idx)

```
s = fltarr(size(tau,/dimensions))
for ii = 0, n_elements(s)-1 do $
 s[ii] = interpol(result[*,ii], tau_axis, tau[ii], /spline)
```

I think this would work, but it seems very silly, which probably means there is a better way. Suggestions?

Maarten