Subject: Re: Display radar data?
Posted by pgrigis on Wed, 08 Oct 2008 15:33:26 GMT
View Forum Message <> Reply to Message

pgri...@gmail.com wrote:
> David Fanning wrote:
>> Dave writes:
>>
>>> I have some weather radar data, whose coordinates are distances
>>> (kilometers) and angles to the radar station. So how can I convert
>>> these local coordinates to longitude/latitude cordinates? Please give
>>> any clue.
>>
>> Set up a map projection of the area of interest with MAP_SET
>> or MAP_PROJ_INIT. Then use CV_COORD to convert your data
>> from polar coordinates to rectangular coordinates (which
>> will be the data or lat/lon coordinates, in this case).
>
> While I am sure that this strategy would work, that will be depriving
> the original
> poster of the joy of figuring out how to convert polar coordinates in
> a plane tangent
> to a sphere at a given point to spherical coordinates. Now, that's a
> beautiful
> geometry problem, isn't it? Furthermore, if high-precision is not
> important,
> the problem may be simplified a bit by making the assumption that the
> earth is
> locally flat at the radar position, thus reducing the problem to
> converting plane
> coordinates from polar to cartesian...

In the latter approximation, a back of the envelope computation
yielded (you may want to double check this before actually using it)

lon=lon0+r/R*sin(alpha)*!radeg
lat=lat0+r/R*cos(alpha)/cos(lat0)*!radeg

Cheers,
Paolo

>
> Ciao,
> Paolo
>
>
>>

>> Cheers,
>>
>> David
>>
>> --
>> David Fanning, Ph.D.
>> Fanning Software Consulting, Inc.
>> Coyote's Guide to IDL Programming: http://www.dfanning.com/
>> Sepore ma de ni thui. ("Perhaps thou speakest truth.")
