# Proposed wording for new grid mapping (Appendix F):

## Radar/Lidar Radial Scan

grid\_mapping\_name = radar\_lidar\_radial\_scan

**Map parameters:**

* **latitude\_of\_projection\_origin**
* **longitude\_of\_projection\_origin**
* **height\_of\_projection\_origin**

**Map coordinates:**

The line-of-sight range (slant range), azimuth and elevation coordinates are identified by the standard\_name attribute values line\_of\_sight\_distance\_from\_instrument, sensor\_to\_target\_azimuth\_angle and sensor\_to\_target\_elevation\_angle respectively.

**Notes:**

A general description of radar projection is given in [Doviak], page 13, equation 2.28b. There is no corresponding projection in PROJ.4.

The projection coordinates (range, azimuth and elevation) may be stored as either coordinate variables or auxiliary coordinate variables. It is common for radar/lidar data to be sored in a 2D variable with range and time dimensions. In this situation the azimuth and elevation coordinates should be provided as auxiliary coordinates on the time dimension.

## Extra entry in Table F.1. Grid Mapping Attributes:

|  |  |  |
| --- | --- | --- |
| Attribute | Type | Description |
| height\_of\_projection\_origin | N | Records the height, in meters, of the map projection origin point above the ellipsoid (or sphere). Used by radial scan type projections to indicate the altitude of the sensor to which the polar coordiante system is referenced. |

## Reference for radar propagation equation:

Doviak, R.J., and D.S. Zrnic, Doppler Radar and Weather Observations, 1984, Academic Press, 458pp.