

**Wind Interpolation**

**1 - Geometrical definitions**

Grid: Any arbitrary orthonormal coordinate system (i,j)

P (i,i) = Grid intersection points coordinates.  
 P (x,y) = Point coordinates of generic point (x,y)

D<sub>i</sub> = Distance between Paralels ("vertical" distance).  
 D<sub>j</sub> = Distance between Meridians ("horizontal" distance).

D<sub>x</sub> (i,j) = Distance between point P (x,y) to the Grid Point P (i,j) measured in the "horizontal" direction.  
 D<sub>y</sub> (i,j) = Distance between point P (x,y) to the Grid Point P (i,j) measured in the "vertical" direction.

**2 - GRIB definitions**

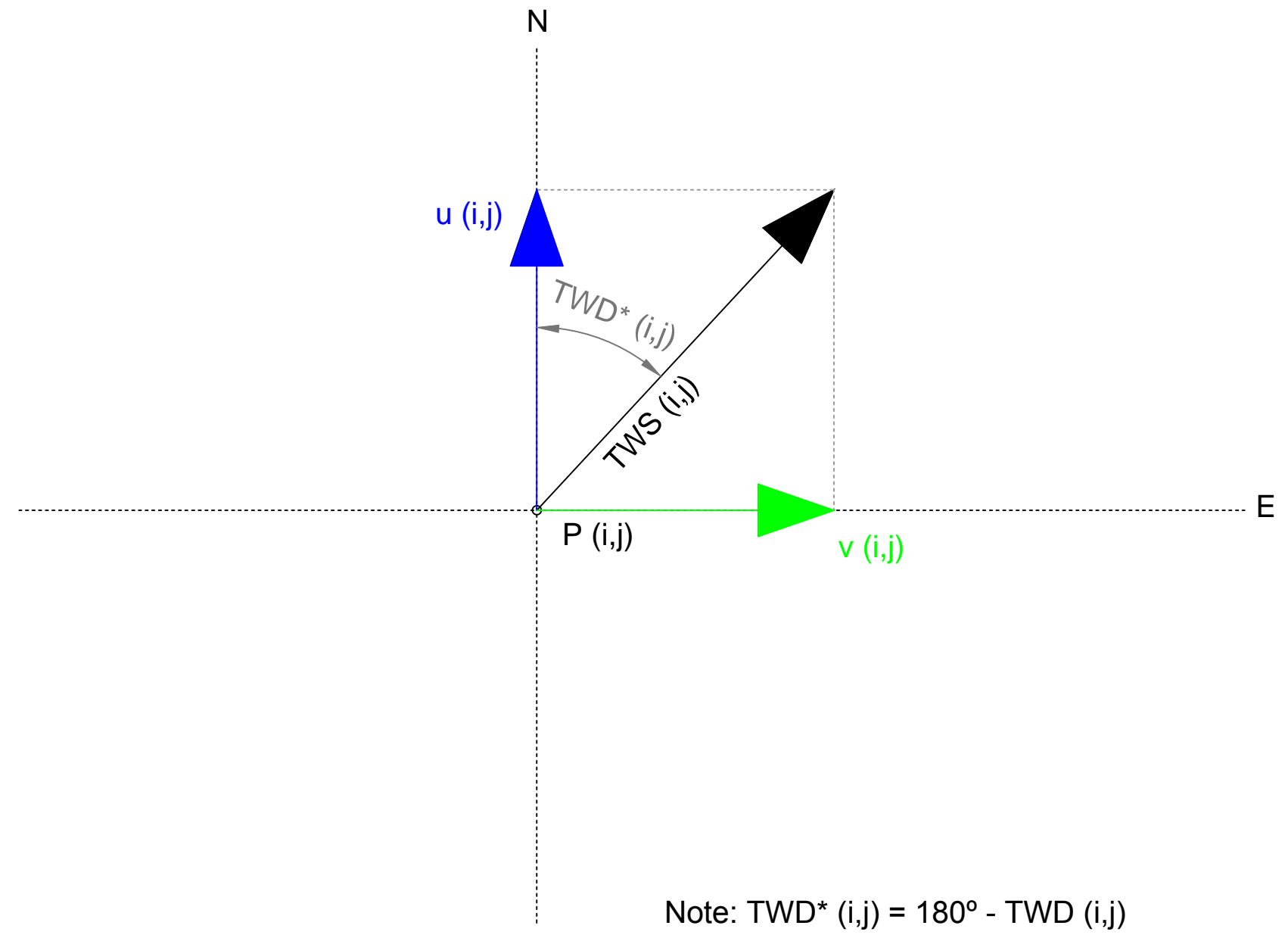
**2.1 - Known**

W (TWS, TWD) = Wind vector field at the time "t".

TWS (i,j) = Wind Scalar field for TWS in the Point (i,j) at the time "t".  
 TWD (i,j) = Wind Scalar field for TWD in the Point (i,j) at the time "t".

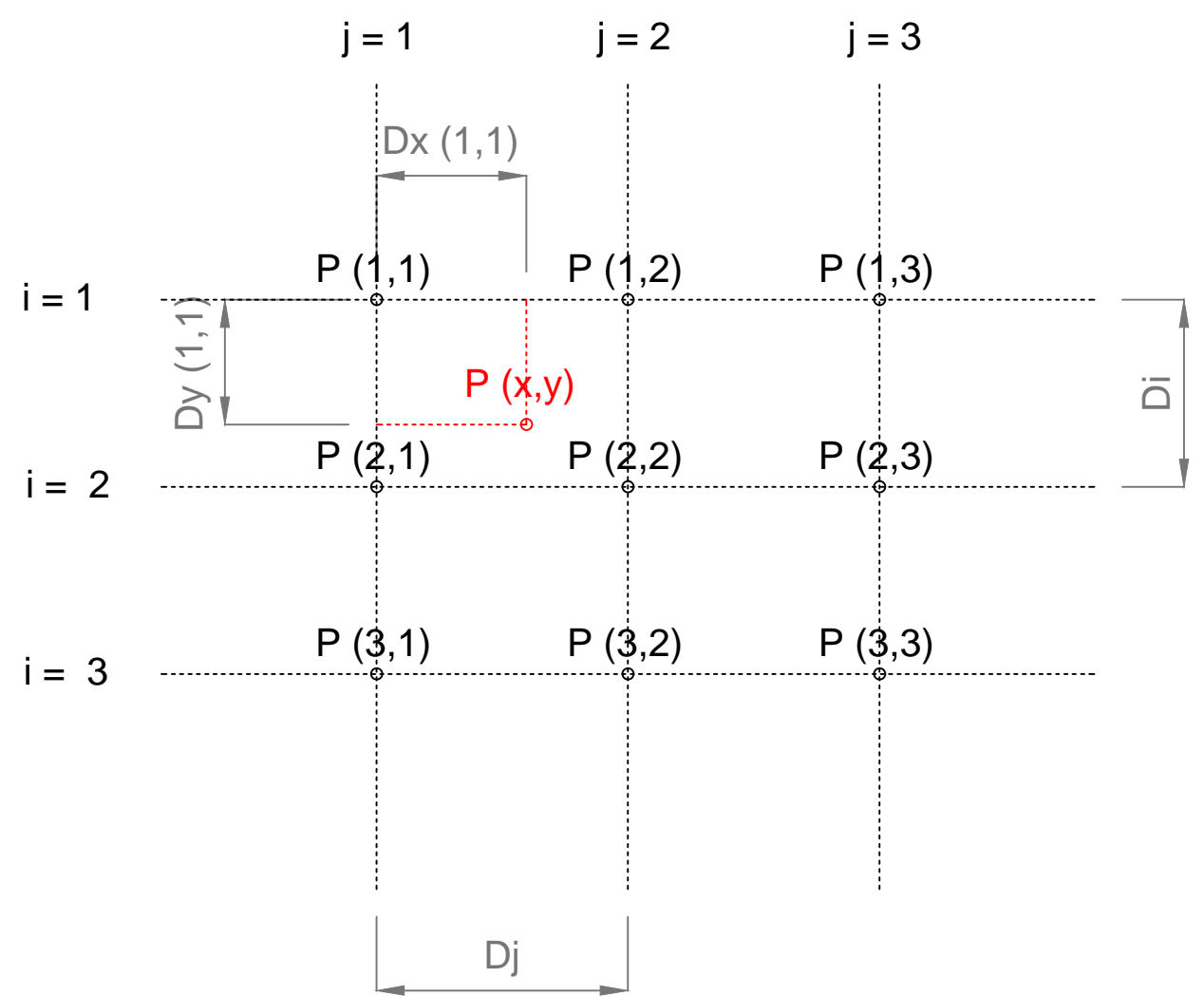
**2.2 - Unknowns**

TWS (x,y) = TWS in the Point (x,y).  
 TWD (x,y) = TWD in the Point (x,y).

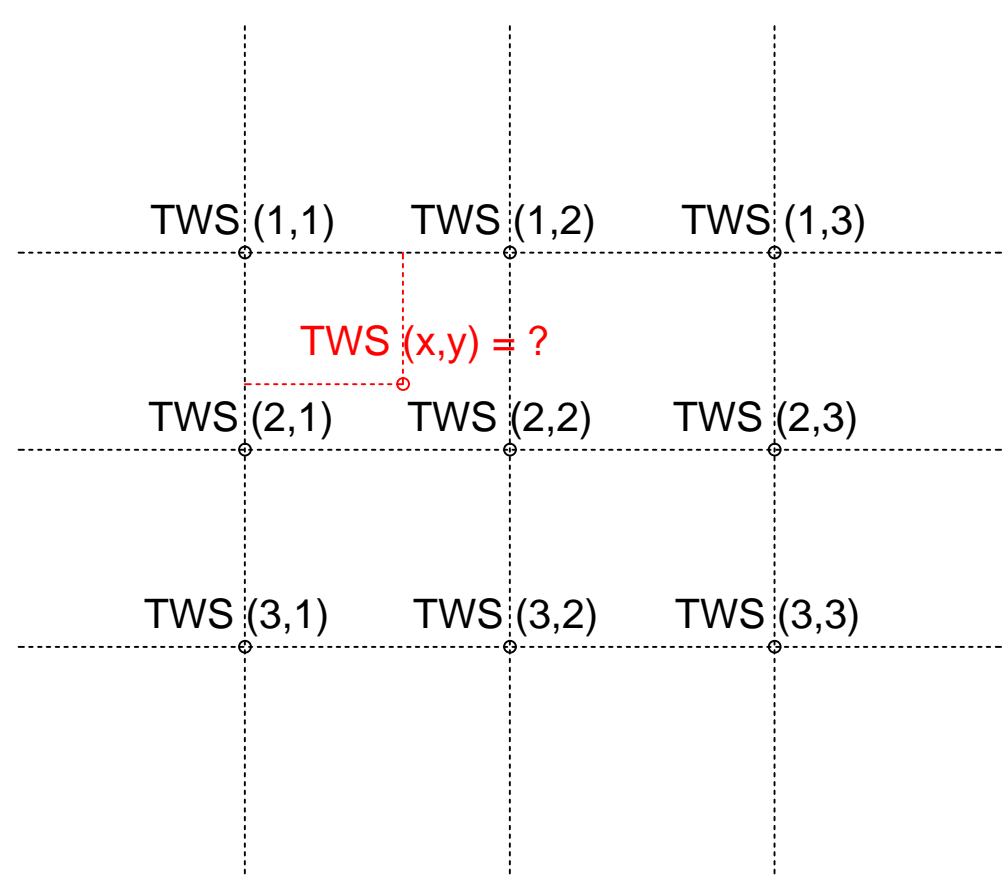


**GRIB Vector Field - W (TWS, TWD)**

**Coordinate System**



**GRIB Scalar Field - TWS (i,j)**



**GRIB Scalar Field - TWD (i,j)**

