

Initial System Differential Phase Offset/Correction, st22

Running **STS > Calibration > Initial System Differential Phase (ISDP)** when light rain is within 30 km of the radar will yield the best results. This routine is performed during INCO but often needs to be re-accomplished when light rain is present. ISDP adaptation data value, st22, can be evaluated by viewing PHI data at the near-edge of a rain region. The RPG is content if the visual average of PHI data (at near-edge of rain) is in the range of 20° to 40°. Currently, there is no alarm when the RPG does not see near-edge rain data between 20° to 40°.

The results of ISDP are stored in st22. St22 may range from 0° to 359° from site to site. The ISDP routine calculates the offset value required to normalize PHI data to 25° so that the RPG receives PHI data values near 25° for rain on the near-side of a rainstorm.

St22 has a linear inverse relationship with PHI. If st22 is decreased by 7° then PHI data will increase by 7°. If st22 is increased by 13° then PHI data will decrease by 13°. Saying another way, if PHI is too high, increasing st22 will decrease PHI.

Potential Impacts when Initial System Differential Phase (ISDP, st22) is NOT Set to its Optimal Setting for your System

PHI at near-edge rain region may not be within ideal range



ZDR Attenuation Correction may be Incorrect → ZDR Degraded in AWIPS

Specific Differential Phase (KDP) may be Degraded



Hydrometeor Classification Algorithm may be Impacted



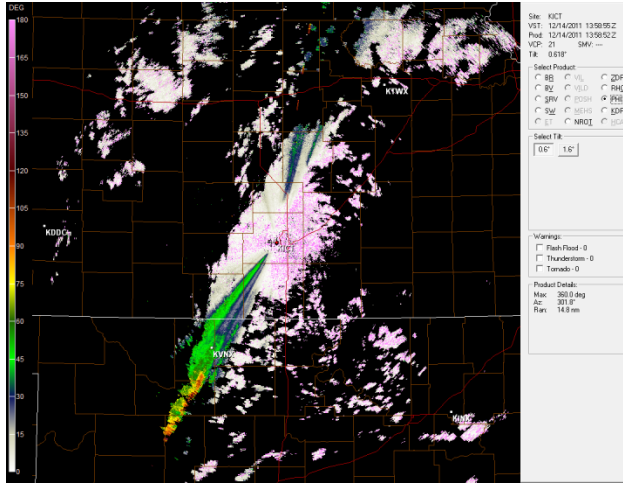
Quantitative Precipitation Estimates (QPE) may be Degraded

If you suspect PHI issues, please contact the Hotline.

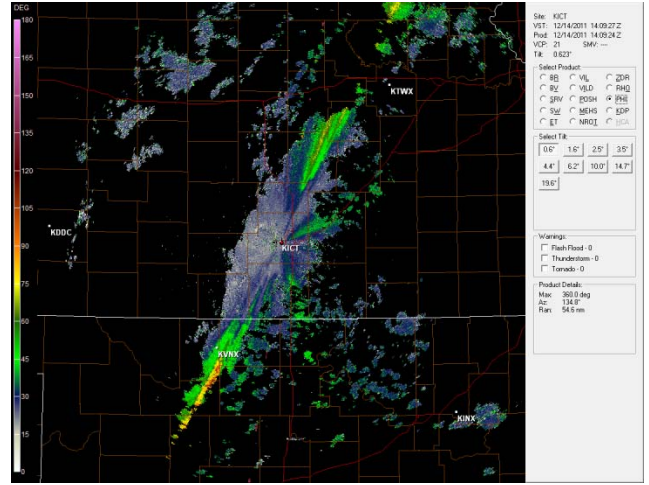
Also, you can refer to the Initial System Differential Phase Procedure in EHB 6-510, Table 6-25

Examples of PHI

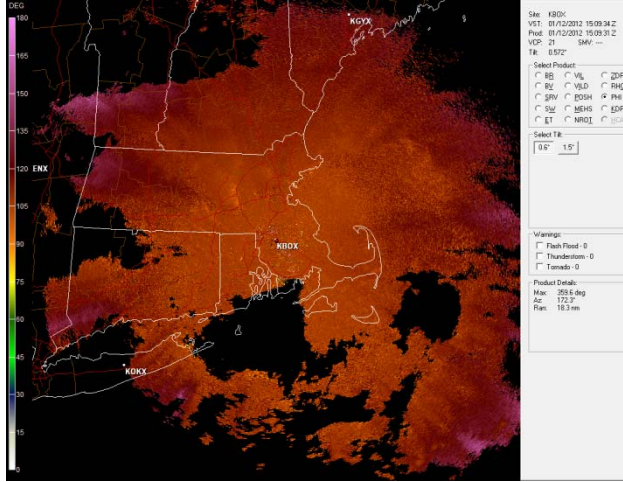
PHI for incorrect ISDP



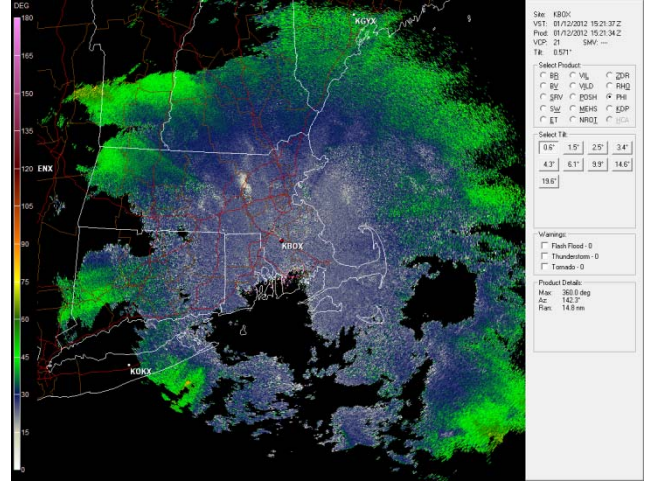
PHI for correct ISDP



PHI for incorrect ISDP

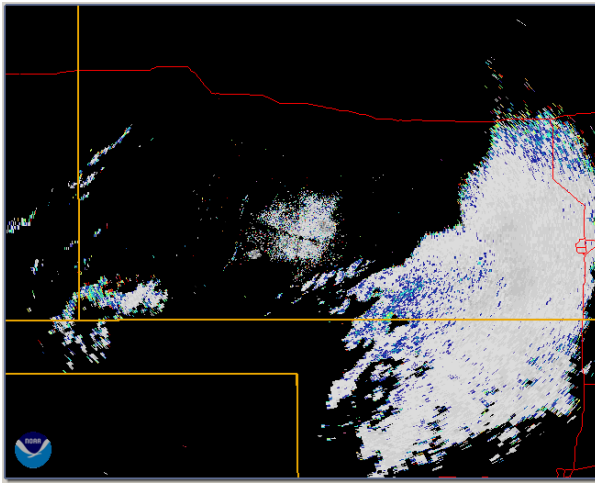


PHI for correct ISDP

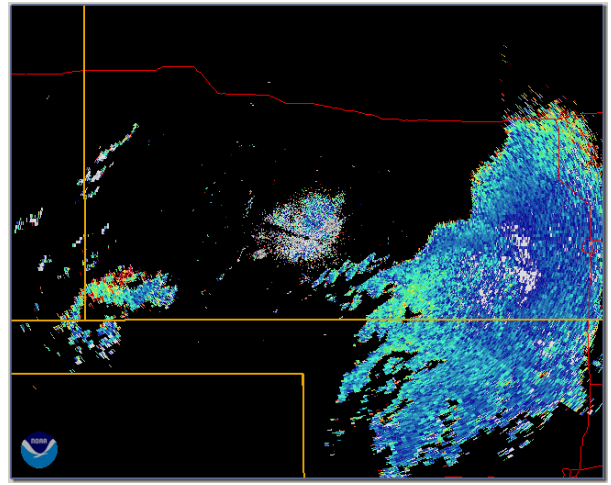


Impact Examples

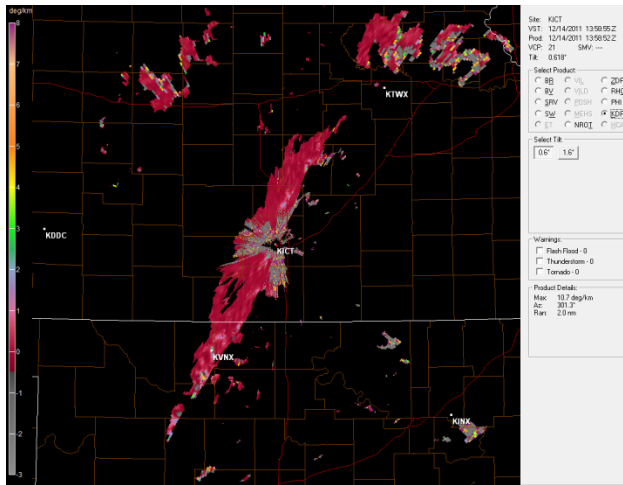
ZDR (Level III) for incorrect ISDP



ZDR (Level III) for correct ISDP



KDP for incorrect ISDP



KDP for correct ISDP

