



Radar Dual Pol QPE Adaptable Parameter Guidance Considerations

Dual Pol QPE Overestimates

- R(A): Consider turning off (may require a local study), the R(Z,ZDR) relationship will be used in place of R(A) below the melting layer
- R(Z, ZDR): If in the Strat/Trop relationship, change to the Continental relationship
- PAIF Area: Increase the threshold area if precipitation accumulations began too early
- Exclusion Zones: Establish exclusion zones over localized area(s) of clutter
- Maximum Precipitation Rate: Consider lowering the value
- DS/IC Multiplier: Consider lowering the value (may require a local study). Current settings are available at: https://mrms-dev.nssl.noaa.gov/roc/level3_metadata_public/level3_main.html

Dual Pol QPE Underestimates

- R(A): Consider turning off (may require a local study), the R(Z,ZDR) relationship will be used in place of R(A) below the melting layer
- R(Z,ZDR): If in the Continental relationship, change to the Strat/Trop relationship
- PAIF Area: Decrease the threshold area if precipitation accumulations began too late
- Exclusion Zones: Assess the height(s) of any established exclusion zones



Optimizing Dual Pol QPE – Guidance on Changing the Default Adaptable Parameters

Parameter	Default Setting	Situations to Change the Parameter Setting:	New Setting
R(A)	On	<ul style="list-style-type: none"> Remove the discontinuity (ring) from within and below the melting layer Significant over or underestimates are occurring (may need a local study) Insufficient R(A) application is being computed in regions of blockage (may need a local study) 	Off
R(Z, ZDR)	Continental	<ul style="list-style-type: none"> Environmental conditions support a Strat/Trop environment Coastal location Underestimates are observed with the default 'Continental' relationship 	Strat/Trop
ISDP (RPG Estimated)	Off until Build 22, then On	<ul style="list-style-type: none"> The RPG Estimated ISDP should remain 'On.' There is no need to turn off the RPG estimated ISDP 	N/A
DS/IC Multiplier	2.8	<ul style="list-style-type: none"> This setting has been found to be too high and results in discontinuities above the melting layer Values closer to 2.0 have been found to be more representative (a local study may be needed) Vertical Profile of Reflectivity Correction (VPRC) in Build 23 when active, will replace the DS/IC parameter Refer to this site for surrounding radars DS/IC setting: https://mrms-dev.nssl.noaa.gov/roc/level3_metadata_public/level3_main.html 	1.3 – 2.8
Use of Sup. Scans	Yes	<ul style="list-style-type: none"> There is no need to turn 'Off' the use of supplemental scans 	N/A
PAIF Area	80 km ²	<ul style="list-style-type: none"> Increase the area if precipitation accumulations begin too soon Decrease the area if precipitation accumulations begin too late 	
Max Precip Rate	200 mm/hr	<ul style="list-style-type: none"> 200 mm/hr is equivalent to 7.78 inches/hr, raise/lower the value depending on conditions (This parameter is used for Legacy PPS as well) 	101.6-250 mm/hr
Exclusion Zones	None defined	<ul style="list-style-type: none"> Establish exclusion zones in localized areas of precipitation overestimates due to clutter targets 	User defined