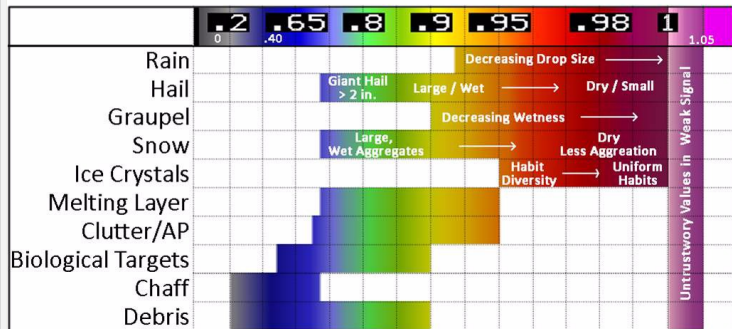


Dual-Pol Reference Guide

Correlation Coefficient (CC)

Definition: A Measure of how similar the horizontal and vertical pulses are behaving from pulse to pulse.

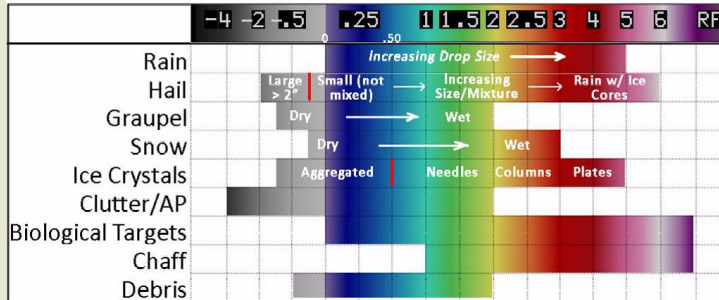
Typical Values for CC



Differential Reflectivity (ZDR)

Definition: Difference between the horizontal and vertical returned power (reflectivity) values.

Typical Values for ZDR (dB)

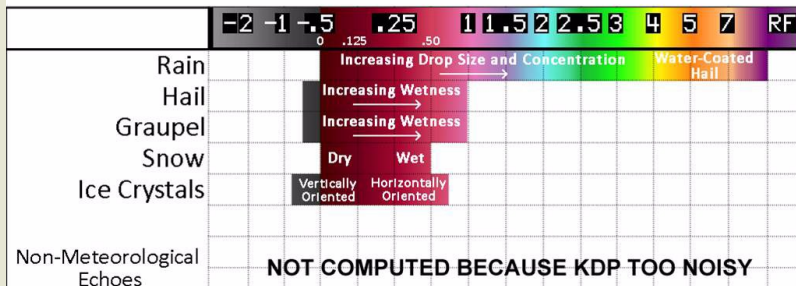


Specific Differential Phase (KDP)

Definition: Range derivative of the differential phase shift between the horizontal and vertical pulses.

**Note: KDP will not be displayed in AWIPS when CC < 0.90

Typical Values for KDP (deg/km)

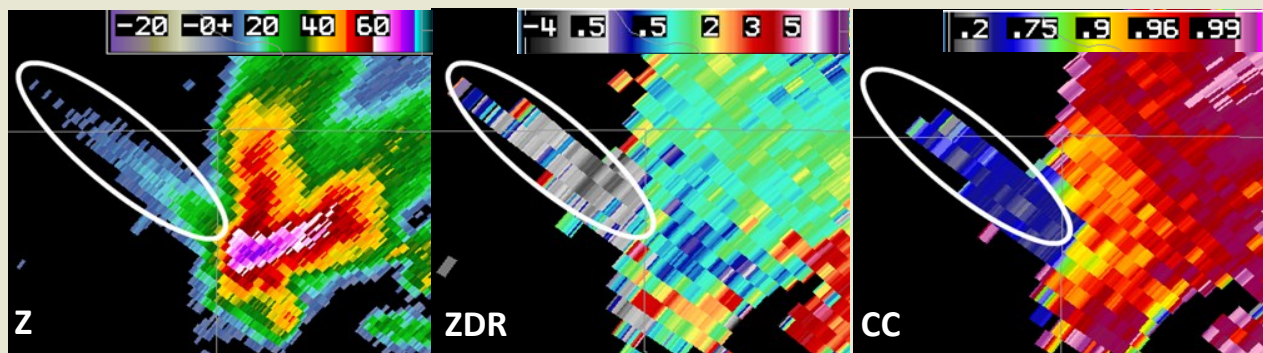


Three Body Scatter Spike (TBSS)

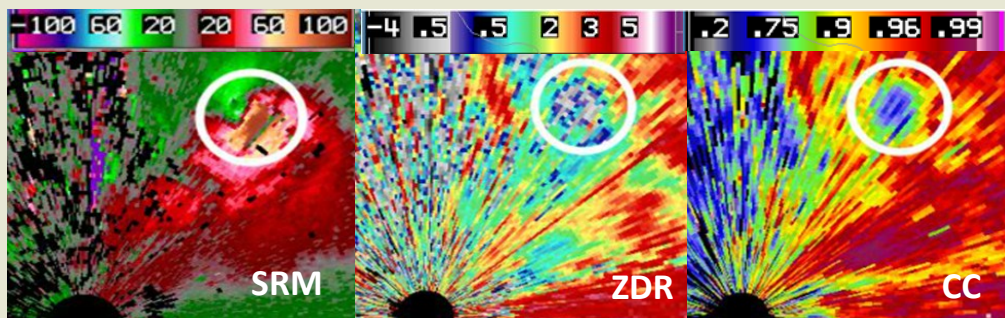
What to look for in the spike:

ZDR < 0 dB

CC < 0.80



Tornadic Debris Signature (TDS)



Local minimum of ZDR and CC co-located with a SRM/Velocity couplet (ZDR ~ 0 and CC < 0.85).

Enhanced Z values may also be present.

Dual-Pol Reference Guide

Expected Dual-Pol Values

Event	Z (dBZ)	ZDR (dB)	CC	KDP (°/km)
Hail Not Mixed With Rain	55-65	~0	0.95-1.00	<0.5
Hail Mixed With Rain	55-65	0.5 to 1.5	0.85-0.95	>0.5
Melting or Mostly Melted Hail	60+	>2	0.9-0.98	>1.5 (possibly extreme >4.0)
Giant Hail (>2") Not Mixed With Rain	HP: 65+ LP: ~40	-1.5 to 0	<0.85	N/A
Giant Hail (>2") Mixed With Rain	65+	0 to 1.5	0.7 to 0.85	N/A
Heavy Rain Mixed With Hail	>55	+RA and non-melted Hail: Positive but low. +RA and melted Hail: Up to 6.0	<0.96	~7+
Pure Heavy Rain	40-55	4.0 to 6.0	>0.95	0.5 to 3.0
Heavy Rain Continental Large Drops	50-60	2.0 to 5.0	>0.96	>1.0
Heavy Rain Tropical Small Drops	40-50	0.5 to 3.0	0.98 to 0.99	>1.0
ZDR Column	>25	>2 (Locally enhanced ZDR co-located with inflow notch)	<0.97	>0.5