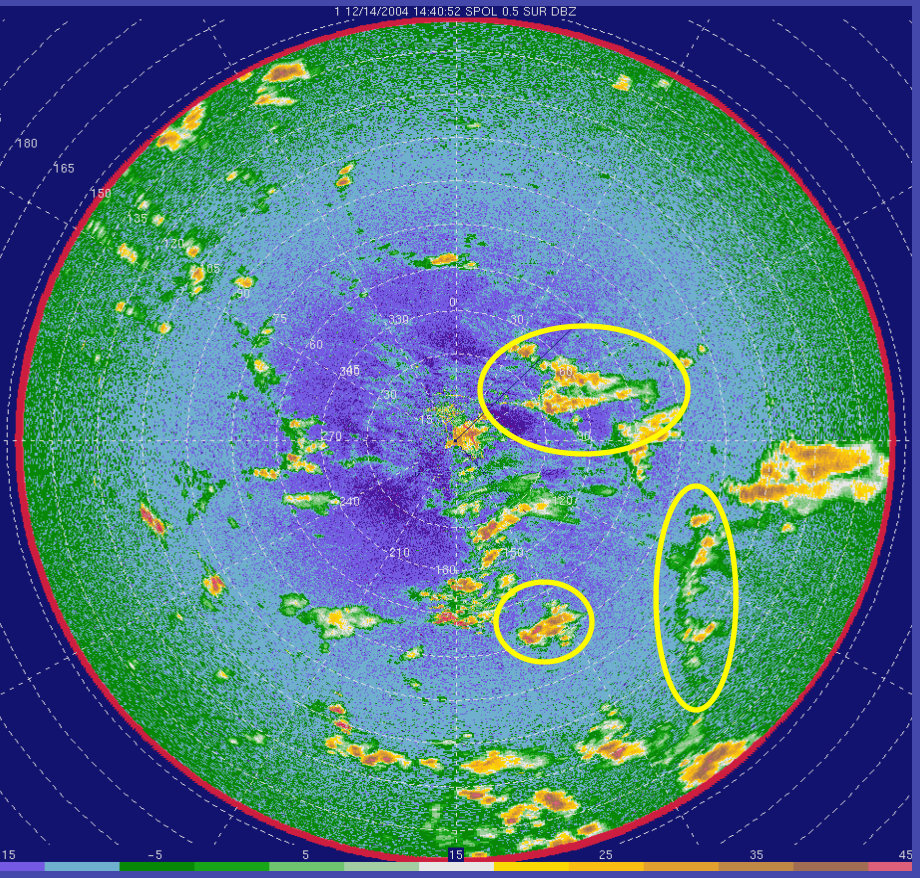
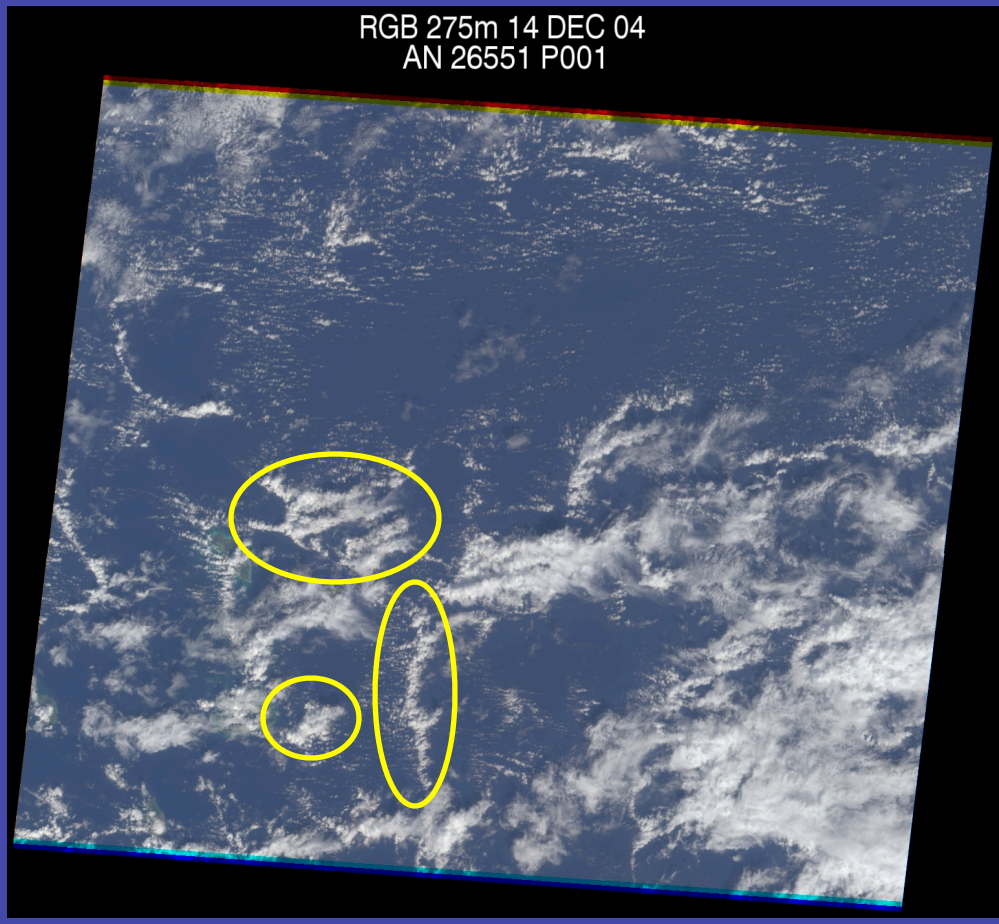
Assess trade-wind cloud precipitation through the synergy of high resolution satellite data and S-band radar data.

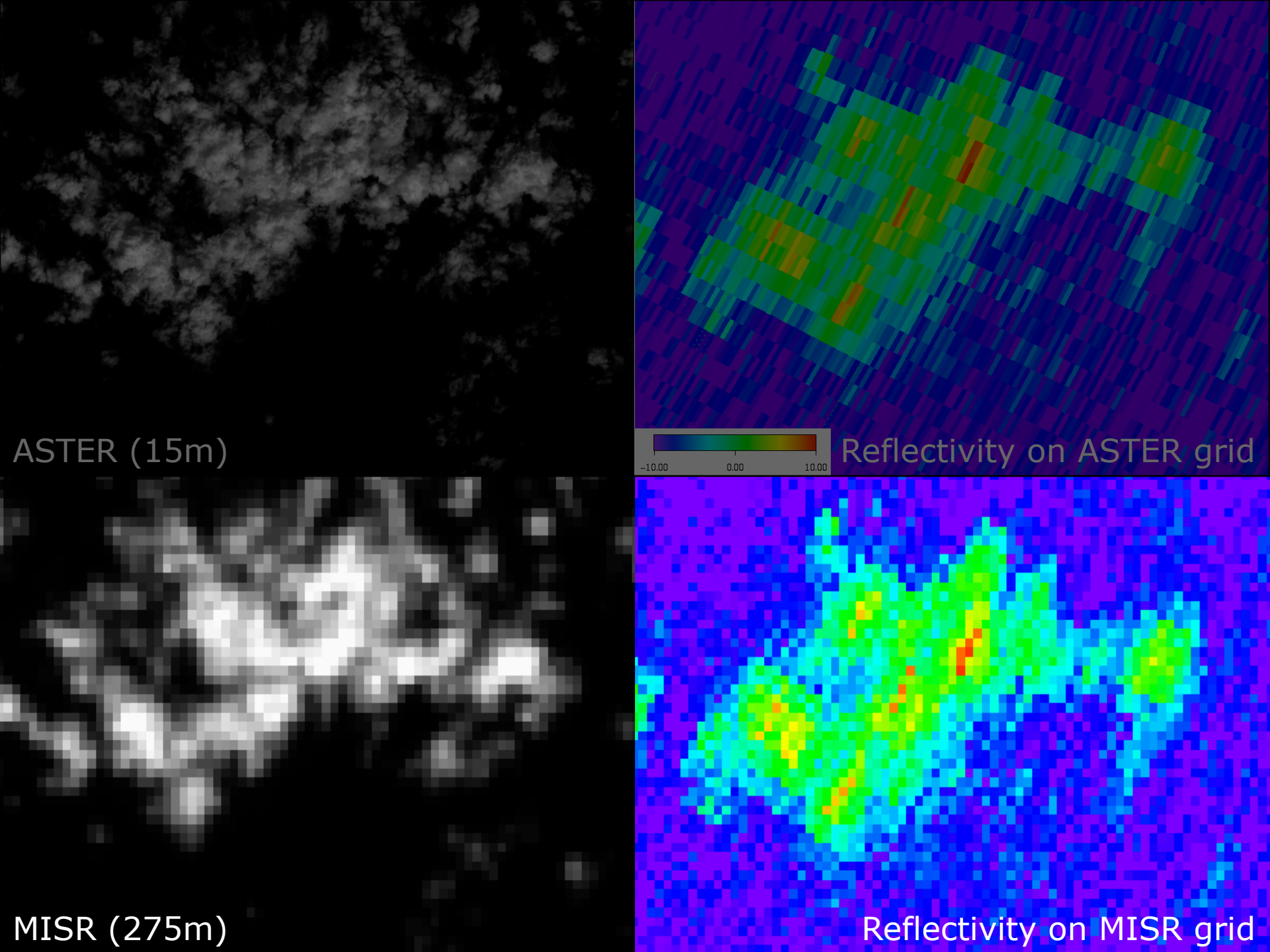
S-POLKa 0.5° Scan

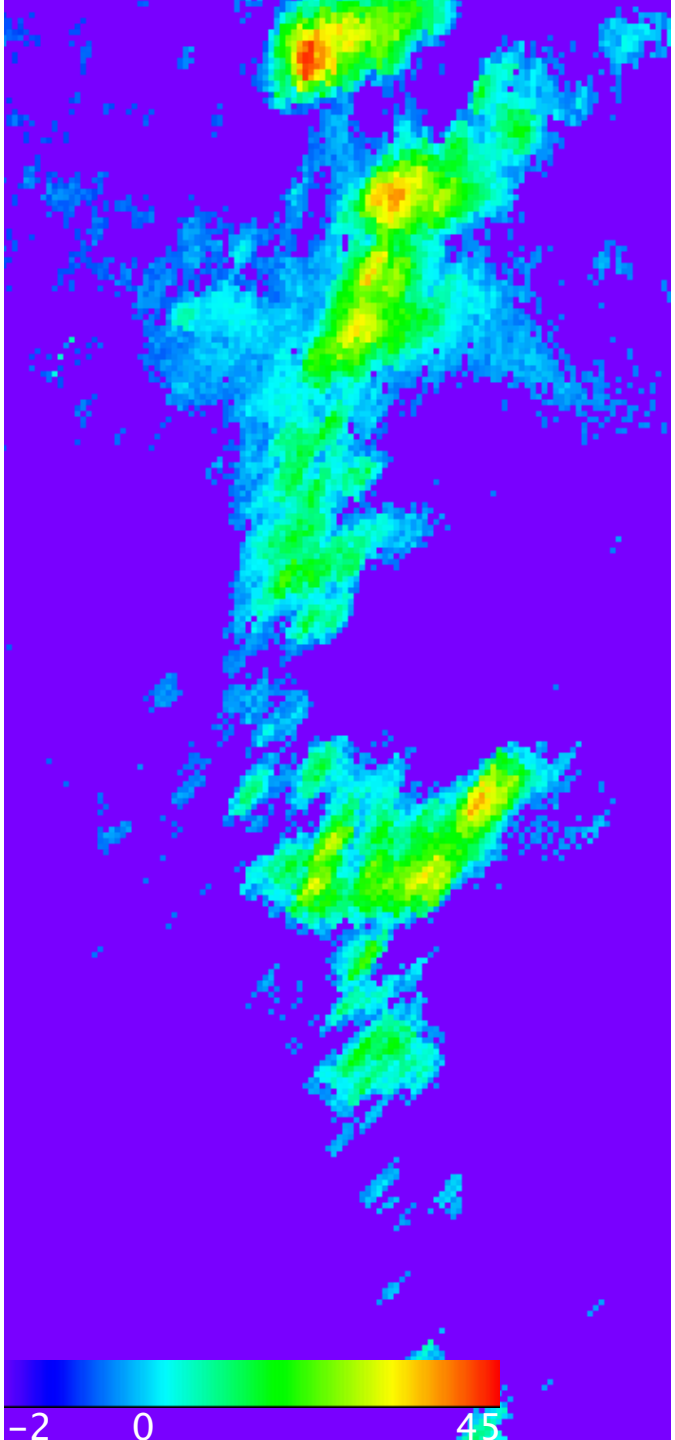


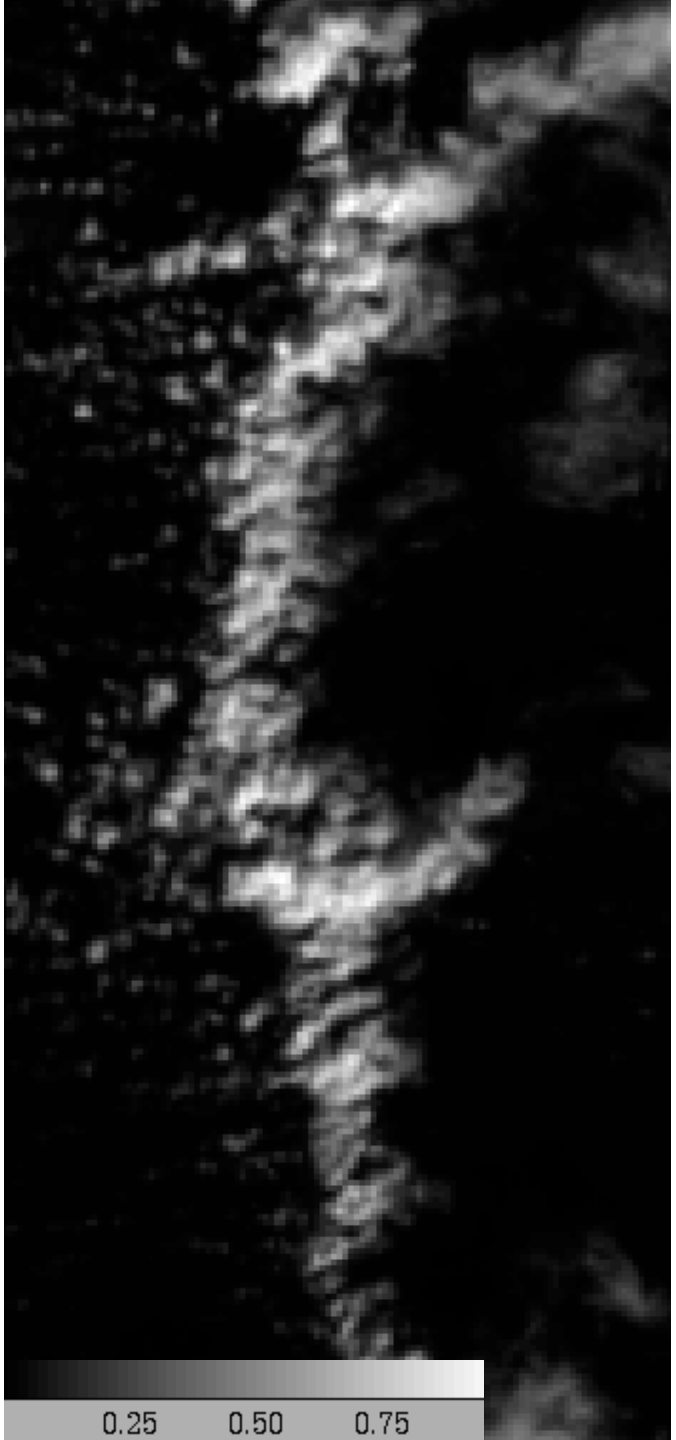
MISR RGB

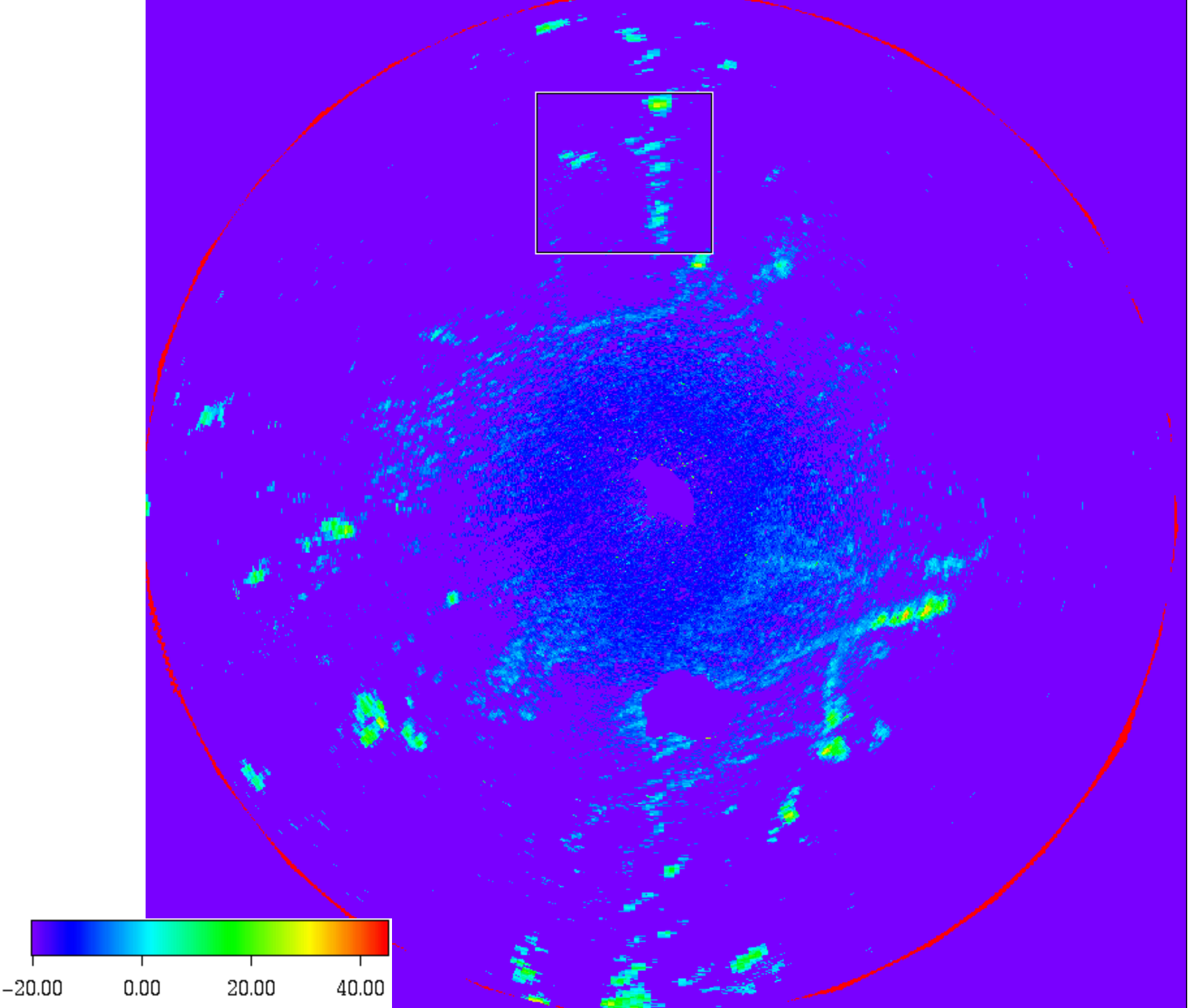


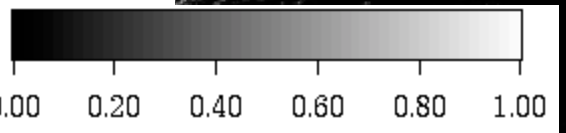
Eric Snodgrass, Bob Rauber and Larry Di Girolamo
UIUC

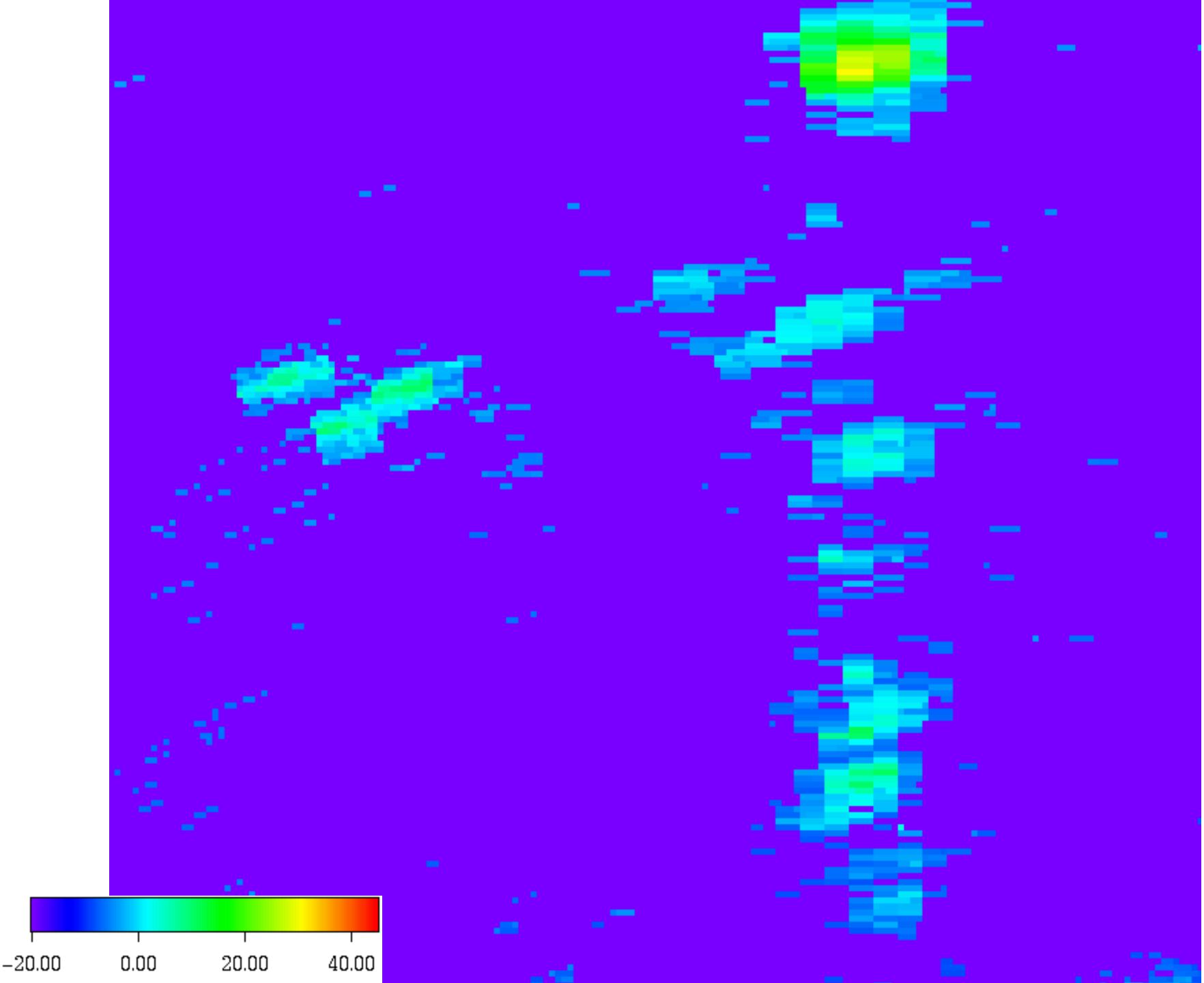

ASTER (15m)
−10.00
0.00
10.00
Reflectivity on ASTER grid
MISR (275m)
Reflectivity on MISR grid


−2
0
45


0.25
0.50
0.75


−20.00
0.00
20.00
40.00


0.00
0.20
0.40
0.60
0.80
1.00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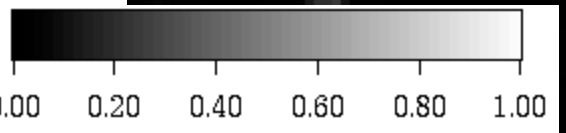
0.00
20.00
40.00


0.00
0.20
0.40
0.60
0.80
1.00

Scientific Objectives

Learn how both S-POLKa and MISR remotely sense shallow convection, so we can use them effectively (3 main problems)

Find percentage of the cloudy area that is raining at or above a given rain rate

Find is the average daily rain rate in this region

Find (if any) the diurnal cycle in rain rate and intensity

Find the LHF to the atmosphere through precipitation and compare it to the ocean surface LHF to estimate how efficient these clouds are at returning water to the ocean

Develop a "RICO Z-R Relationship"

Investigate whether a certain type of mesoscale organization produces more rain than another (subjective at this point)