Quick overview of shallow cloud in March 2013 from the X-SAPR radar measurements

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March 11-12, 2013

XSAPR Reflectivity

Nega@ve: moving away from radar
Posi@ve: moving toward radar

EL: 0.5°

KAZR Reflectivity 2013/03/11-12

Negative: moving away from radar
Positive: moving toward radar
March 11-12, 2013

XSAPR Reflectivity

XSAPR Doppler velocity

Negative: moving away from radar
Positive: moving toward radar

EL: 0.5°
Horizontal wind from XSAPR VAD on 11 March 2013
(Background: KAZR reflectivity)
VerBrical cross secBon from RHI 18:36 UTC AZ:97.5°

Reflectivity

Doppler	

Snowband
Overview of March 11 case

• 11 – 14 UTC
  ➢ Widely-distributed stratocumulus
  ➢ Low-level southerly wind (<0.3 km)
  ➢ Upper-level west-northwesterly-wind (≥0.3 km)

• 14 – 20 UTC
  ➢ Passage of narrow snowband from west to east
  ➢ Shallow low-level southerly-wind layer
  ➢ Upper-level northwesterly wind → westerly wind

• 20 UTC –
  ➢ Widely-distributed stratocumulus
  ➢ Westerly wind
March 31, 2013

XSAPR Reflectivity

DISTANCE NORTH OF XSAPR [km]

Doppler velocity

DISTANCE EAST OF XSAPR [km]

Negative: moving away from radar
Positive: moving toward radar

EL: 0.5°

03/31/2013 030352 UTC

nsrDBZ 0.49°

nsrVEL 0.49°

KAZR ge 2013/03/31

HEIGHT [km]

HOUR [UTC]
March 31, 2013

XSAPR Reflectivity

XSAPR Doppler velocity

Negative: moving away from radar
Positive: moving toward radar

KAZR ge 2013/03/31
Horizontal wind from XSAPR VAD on 31 March 2013
(Background: KAZR reflectivity)

Southerly wind
3-4 m/s

Southwesterly to southeasterly wind ~6 m/s

Easterly wind ~5 m/s
Overview of March 31 case

• **01 – 14 UTC**
  - Stratiform cloud moving toward north
  - Low-level easterly wind (<1 km)
  - Upper-level southerly-wind (>1 km)

• **14 UTC –**
  - Generating cells
  - Low-level easterly wind (<0.8 km)
  - Southwesterly to southeasterly winds (>0.8 km)