An Algorithm to Enhance Nowcast of Rainfall Brought by Tropical Cyclones through Separation of Motions

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An Algorithm to Enhance Nowcast of Rainfall Brought by Tropical Cyclones through Separation of Motions on Various Scales

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HKO Rainstorm Nowcasting System

SWIRLS
Short-range Warning of Intense Rainstorms in Localized Systems

Problem (Original Scheme)
Separate the motion of TC before radar echo tracking

Solution (Enhanced Scheme)

Cases
(a) Original Scheme; and
(b) Enhanced Scheme

Forecast radar reflectivity images of Typhoon Fengshen (2008) with various schemes and compared against the actual radar image.

Forecast radar reflectivity images of Typhoon Molave (2009) with various schemes and compared against the actual radar image.

Verifications

CSI for 1 mm threshold

CSI for 20 mm threshold

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