MELTING LEVEL DETECTION ALGORITHM

Pre-processed polarimetric profiles

PART 1

1a Product of two normalised profiles (P_{comb})

Z_H (dBZ) [5, 60] -> Z^*_H [0, 1]
ρ_{HV} ( ) [0.85, 1] -> ρ^*_{HV} [0, 1]
$P_{comb} = Z^*_H \cdot [1 - \rho^*_{HV}]$

1b Identification of P_{peak} and its magnitude

$P_{peak} > k$?

NO → Unable to estimate the ML

$k = 0.05$ [VPs]
$k = 0.08$ [QVPs]

YES ↓

1c Upper limit (U_L) set for the identification of the ML

U_L = height of P_{peak} + 750 m

PART 2

2a Computation of normalised profiles and their combinations below U_L

2b Application of a peak enhancement technique to the resultant profiles

$w = 0.75$

2c The P_{peak} of the profiles and their combinations is located

See analysis about combination' performance

2d Identification of the valleys adjacent to P_{peak}

The melting level is located!