

1D+4DVAR data assimilation of ground based radar reflectivity using radar simulator

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- The new indirect assimilation (1D+4DVAR) of radar reflectivity is developing in JMA.
- We have been developing a Radar simulator that play role of observation operator in 1D optimal retrieval based on the Bayesian inference. And, a pseudo observation of RH is retrieved from radar reflectivity by the optimal retrieval. The retrieved RH is assimilated as conventional observation data in 4DVAR.
- In the analysis-forecast cycle experiment, the 1D+4DVAR approach demonstrated the improvement of precipitation and RH vertical profile.

