



CNRM, UMR 3589

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### **BACKGROUND ERROR COVARIANCE MODELLING IN GRAPES MESO-3DVAR SYSTEM**

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#### Résumé :

The modelling and specification of background error covariance are important in data assimilation system. In GRAPES MESO-3DVAR system, cross correlation between mass and wind is modeled by linear balance equation, horizontal correlation is modeled by recursive filters transform, and vertical correlation is modeled by empirical orthogonal functions (EOF) transform. In addition, the error variances and transform parameters are specified using NMC method. Recently, multiple regressions are used to calculate cross correlation, and transform parameters are recalculated using new background error samples. Experiment results show the reformation modelling is benefit to the analysis and forecast performance of the system.