



Einladung zum Oberseminar Wissenschaftliches Rechnen

Julius-Maximilians-Universität Würzburg
Lehrstuhl für Wissenschaftliches Rechnen IX

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Stochastic Modelling of Forecast Errors in Numerical Weather Prediction

In this talk, I will give a short introduction into various methods for weather prediction that are operationally used at the German Meteorological Service (Deutscher Wetterdienst). Of particular importance are methods for numerical weather prediction that allow for forecast ranges from hours to several days/two weeks ahead.

For professional customers a single forecast with unknown uncertainty is not sufficient. With the help of so-called ensemble prediction systems (EPS) a forecast of the probability distribution of some event of interest can be made. If the EPS satisfies a property called reliability, the unknown forecast error can be estimated a-priori from the spread of the distribution and the customer has a guideline how trustworthy the forecast is.

Nowadays, the operationally used EPS do not fully achieve reliability but have a variance that is too low compared to observations, i.e. they are overconfident. In order to overcome this issue, several approaches have been proposed to better describe the forecast error with stochastic models. I will present some of these models and give a detailed account on my current research project that aims at modeling the forecast error with a stochastic partial differential equation (SPDE) with coefficients that are time-dependent functions of the current weather conditions.

Ort: Raum 30.02.003 (2. Stock) (Mathegeb. 30 West)

Zeit: Montag, 20.01.2020, 14:00 Uhr

Zu diesem Vortrag laden wir Sie herzlich ein.

gez. Prof. Dr. Alfio Borzi
gez. Prof. Dr. Bernadette Hahn