Philipps Universität Marburg

Kolloquium des Fachbereichs Mathematik und Informatik der Philipps-Universität Marburg

Im Kolloquium des Fachbereichs Mathematik und Informatik wird

Herr Prof. Dr. Mark C. Veraar, EWI, Delft University of Technology,

am **Donnerstag**, 12. März 2015,

zum Thema

A new approach to maximal regularity for parabolic PDEs

vortragen.

Abstract. Maximal regularity can often be used to obtain a priori estimates which give global existence results. In this talk I will explain a new approach to maximal L^p-regularity for parabolic PDEs with time dependent generator $A(t)$. Here we do not assume any continuity properties of $A(t)$ as a function of time. We show that there is an abstract operator theoretic condition on A(t) which is sufficient to obtain maximal L^p-regularity. As an application I will obtain an optimal $L^p(L^q)$ regularity result in the case each $A(t)$ is a system of $2m$-th order elliptic differential operator on $\mathbb{R}^d$ in non-divergence form. The main novelty is that the coefficients are merely measurable in time and we allow the full range $1 < p, q < \infty$.

This talk is based on joint work with Chiara Gallarati.

Der Vortrag findet um **16:00 Uhr** im **HS IV, 04A30,** am Fachbereich Mathematik und Informatik, Lahnberge, statt.

Kaffee/Tee im Raum 05A31 um 15:30 Uhr.

Es laden ein die Dozenten der
Mathematik und Informatik