UNIVERSITÄT SALZBURG

**Fachbereich
Mathematik**
Hellbrunnerstraße 34
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Vortragsreihe

Freitag, 12. Jänner 2018
10.00 – 11.30 Uhr
Seminarraum I

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The higher integrability for doubly nonlinear evolution equation

Abstract: In this series of informal talks we summarize the progress on the question of higher integrability of the spatial gradient of solutions to doubly nonlinear evolution equations attained during our regular meetings of the Analysis research groups from four universities (Aalto University, University of Duisburg-Essen, University of Erlangen-Nürnberg and University of Salzburg). The first talk will summarize the proof of the higher integrability result for the Porous Medium Equation due to U. Gianazza and S. Schwarzacher. Recent improvements of this technique will be discussed in the second talk. Finally, in the third talk we will report on first ideas towards the higher integrability for general doubly nonlinear evolution equations.

The question of higher integrability for the Porous Medium Equation was an open problem for a long time and has been recently solved by U. Gianazza and S. Schwarzacher. This series of talks should be seen as research in progress with an open discussion. The goal is to bring all involved researches to the same level in order to finally solve the problem of the higher integrability for general doubly nonlinear evolution equations. The starting point for this purpose a deep understanding of the technique used by U. Gianazza and S. Schwarzacher. Therefore, we assume the audience to be familiar with the manuscript "U. Gianazza and S. Schwarzacher. Self-improving property of degenerate parabolic equations of porous medium type."

Einladende: Verena Bögelein