

数学与系统科学研究院

计算数学所学术报告

报告人: **Prof. Dr. Folkert Müller-Hoissen**

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报告题目:

**Integrable systems with
self-consistent sources from a binary
Darboux transformation perspective**

邀请人: 胡星标 研究员

报告时间: **2015 年 8 月 15 日 (周六)**

上午 10:30~11:30

报告地点: 数学院南楼七层

702 会议室

Abstract:

We reveal the origin and structure of self-consistent source extensions of integrable equations from the perspective of binary Darboux transformations. They arise via a deformation of the potential that is central in this method. As examples, we obtain in particular matrix versions of self-consistent source extensions of the sine-Gordon, nonlinear Schrödinger, KP, Davey-Stewartson, two-dimensional Toda lattice and discrete KP systems. They are accompanied by a hetero binary Darboux transformation that generates solutions of such a system from a solution of the source-free system and solutions of an associated linear system and its adjoint. The essence of all this is encoded in universal equations in the framework of bidifferential calculus. This is joint work with Oleksandr Chvartatskyi and Aristophanes Dimakis.

欢迎大家参加！