

# Computing Formal Solutions of Completely Integrable Pfaffian Systems With Normal Crossings

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May 12, 2015

## Abstract

In this talk we are interested in the computation of formal solutions of completely integrable Pfaffian systems with normal crossings via rank reduction. Our investigations treat the generalization of known methods for the case of one or two variables to the multivariate setting. We follow the approach of the latter by associating to a given Pfaffian system a set of ordinary linear differential systems from which information on formal invariants can be retrieved. Furthermore, we introduce a variant of rank reduction facilitated by standard bases of modules over power series rings.

This is joint work with Moulay A. Barkatou and Suzy S. Maddah (University of Limoges, XLIM).

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