Contribution ID: **41**   Type: **not specified**

Faster Integration of D-module

Tuesday, 15 October 2024 15:30 (15 minutes)

We consider the problem of computing all the linear relations between the integrals of the functions lying in a given holonomic D-module. We present in this poster a new integration algorithm designed for handling multiple integrals of holonomic functions. This novel algorithm can be regarded as both an extension of Lairez's reduction-based algorithm, which is limited to integrals of rational functions, and an enhancement of Takayama's algorithm based on D-module theory.
This is a joint work with my two PhD advisors Frédéric Chyzak and Pierre Lairez.

Primary author: BROCHET, Hadrien (Inria Saclay)

Presenter: BROCHET, Hadrien (Inria Saclay)

Session Classification: Poster Session