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Abstracts of Short Communications and Posters

Section:

4. Algebraic Geometry

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Xambó-Descamps, Sebastià, Universitat Politècnica de Catalunya

Expressing and executing algorithms in the theory of error-correcting codes

Starting from examples of relevant data structures and algorithms in the theory of Goppa error-correcting codes, a new advanced symbolic and algebraic programming language —Omega— will be presented. The main features of an interpreter (written in C^{++}) of an early version of the language (1996), and some examples of its use, will also be considered. Finally we will deal with an interpreter (written in Haskell): the advanced features of its type and pattern systems will be discussed, and also the capacity, stemming from the methodology, to formalize, and experiment with, different syntaxs and semantics.