Analysis of Constraint Handling Rules Programs

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Constraint Handling Rules (CHR) are a declarative language especially designed for writing constraint solvers. CHR are essentially a committed-choice language consisting of multi-headed guarded rules that rewrite constraints into simpler ones until they are solved.

In this talk we give a necessary and sufficient condition for confluence of terminating CHR programs. We then introduce a completion procedure to make non-confluent CHR programs confluent. Finally, we present some recent results on checking operational equivalence of CHR programs and constraints.

This is joint work with Slim Abdennadher.