Tuple Interpretations for Higher-Order Term Rewriting System

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Abstract

We present a style of algebra interpretations for many-sorted and higher-order term rewriting based on interpretations to *tuples*; intuitively, a term is mapped to a sequence of values identifying for instance its evaluation cost, size and perhaps other values of interest. This gives a more fine-grained notion of the complexity of a term or TRS than notions such as runtime or derivational complexity, which is in particular useful to obtain complexity results for higher-order term rewriting systems.