Biform Theories: Project Description*

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Abstract. A *biform theory* is a combination of an axiomatic theory and an algorithmic theory that supports the integration of reasoning and computation. These are ideal for specifying and reasoning about algorithms that manipulate mathematical expressions. However, formalizing biform theories is challenging since it requires the means to express statements about the interplay of what these algorithms do and what their actions mean mathematically. This paper describes a project to develop a methodology for expressing and managing mathematical knowledge as a network of biform theories. It is a subproject of MathScheme, a long-term project at McMaster University to produce a framework for integrating formal deduction and symbolic computation.

1 Problem

2 Biform Theories

3 Project Objective

4 Work Plan

5 Related Work

6 Conclusion

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Todo list