

A Type Theoretic Model of Synthetic Algebraic Geometry*

Thierry Coquand

University of Gothenburg
coquand@chalmers.se

Following ideas of Bill Lawvere, Ingo Blechschmidt and Anders Kock, we have been working, with Felix Cherubini and Matthias Hutzler, on a synthetic development of algebraic geometry. This is an axiomatic development, starting from some axioms on a local ring. This is formulated, not in first-order or higher-order logic, but in the setting of dependent type theory, with univalence and propositional truncation, and making e.g. use of the development of cohomology in homotopy type theory. I will present a constructive model of this system.

*This is part of j.w.w. Felix Cherubini and Matthias Hutzler.