

**Part I**

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**Survey of the European project GAIA II**

The European project GAIA II entitled *Intersection algorithms for geometry based IT-applications using approximate algebraic methods* (IST 2001-35512) involved six academic and industrial partners from five countries. The project aimed at combining knowledge from Computer Aided Geometric Design, classical algebraic geometry and real symbolic computation in order to improve intersection algorithms for Computer Aided Design systems. The project has produced more than 50 scientific publications and several software toolkits, which are now partly available under the GNU GPL license.

We invited the coordinator of the project, Tor Dokken, to present a survey describing the background, the methods, the results and the achievements of the GAIA project. His summary is the first part of this volume.