Transnational Access Programme and the Training Schools at RISC

Temur Kutsia

RISC, Johannes Kepler University of Linz, Austria
kutsia@risc.uni-linz.ac.at

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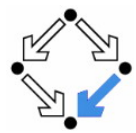
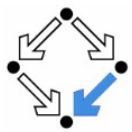


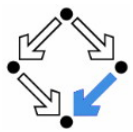
Transnational Access Programme

- Goal: Allow access to RISC expertise, facilities, and software to researchers who are interested in using symbolic computation in their research.
- Access types: Residential and remote.



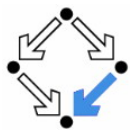
Transnational Access Programme

- Residential access: Visiting RISC for several weeks, doing a joint work with RISC members, getting an expert advice, getting access to the infrastructure of the institute.
- Remote access: Getting access to RISC computing facilities.



Transnational Access Programme

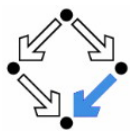
- Application procedure: Submitting a CV and an extended abstract that describes the applicants work where symbolic computation is/will be used, specifies the problem the applicant would like to work on during the visit, and dates of the visit.
- Applications for visits are reviewed by the selection committee who makes the decision about granting access. Decisions about granting remote access is made by the RISC faculty.



Transnational Access Programme

Selection committee:

- Bruno Buchberger
- Arjeh Cohen
- Marc Giusti
- Steve Linton
- Peter Paule
- Franz Winkler (chair)



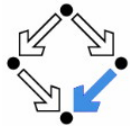
Transnational Access Programme

Applications since July:

#	Institution, Country	Field	Topic
1.	Aristotle University Greece	Mathematics	Elimination Theory
2.	Weizmann Institute Israel	Physics	Polynomial system solving
3.	Acad. Armed Forces Slovakia	Mechanical Engineering	Use of CAS
4.	TU Tallinn Estonia	Physics	SC in thermodynamics
5.	University of Maribor Slovenia	Applied Mathematics	Dynamical systems
6.	TU Tallinn, Estonia	Physics	SC in thermodynamics

Blue: visits

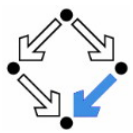
Red: remote access



Transnational Access Programme

Short info on residential access applications:

- Application # 1 (Thessaloniki): Use of elimination theory for the computation of minimal polynomials of quartic imprimitive extensions of the rational number field.
- Objectives: Find an algorithm, using elimination theory, for the computation of all minimal polynomials defining imprimitive quartic number field extensions of the rational numbers, unramified outside some set of primes and infinity (there are finitely many from Hermite's theorem).



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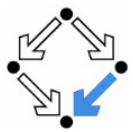
- Application # 2 (Rehovot): Algebraic closure models of stratified turbulent boundary layers.
- Objectives: Symbolical resolution of formulated system of 20 algebraic equations of polynomial type on 20 variables and one parameter for further physical interpretation of the results.



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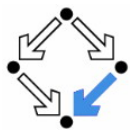
- Application # 4 (Tallinn): Symbolic computational techniques. in nonequilibrium thermodynamics and in constitutive theory.
- Objectives: In today's non-equilibrium thermodynamics the entropy production is searched for as a constitutive function via the dissipation inequality. The exploitation of the dissipation inequality can be done in different ways, one of them being a recently developed Liu's procedure. The application of Liu's procedure involves construction and handling of comparably large matrices/arrays with symbolic entries. For the construction of the arrays the entries have to be extracted from a set of (usual very long) equations. The goals of the visits are implementation of Liu's procedure in a CAS (Mathematica) and its possible extension to mesoscopic continuum physics.



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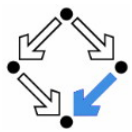
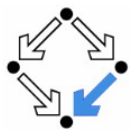
- Application # 5 (Maribor): Symbolic computation in dynamical systems is currently under reviewing.



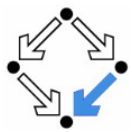
Objectives of Training Schools

- To inform potential users about the resources of RISC and the possibility of access through this project.
- To provide detailed training in selected symbolic computation software and techniques for actual and potential users, including software developed in NA3 and JRA1.
- To provide feedback on user needs to symbolic computation software developers, including those working as part of NA3 and JRA1.



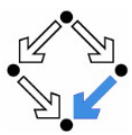
The First Training School

- In the Castle of Hagenberg, February 5–18, 2007.
- Introductory courses and tutorials on symbolic computation software and techniques Link



The First Training School

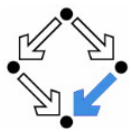
- Announcements sent to >2000 addresses across Europe.
- 54 applications received.
- SCIEnce could fund only 12 participants: 22% acceptance rate.
- Thanks to the selection committee for their excellent work!
- Statistics of applications
- Statistics of acceptance
- 3 more researchers plan to visit RISC during the school period within the TAP.
- 6 more participants come on their own expenses.
- Total: 21 participants.



Planning of the Second Training School

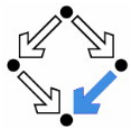
Part of the RISC Summer 2007, consisting of 8 events:

1. CoCoA's International School on Computer Algebra.
   June 18–22, 2007, Hagenberg.
2. MEGA'07, 9th International Conference on Effective Methods in Algebraic Geometry.
   June 24–30, 2007, Strobl am Wolfgangsee.
3. AIT 2007, Conference on Algorithmic Information Theory.
   June 25–26, 2007, Hagenberg.
4. Calculemus 2007, The 14th Symposium on the Integration of Symbolic Computation and Mechanized Reasoning.
   June 27–30, 2007, Hagenberg.



Planning of the Second Training School

5. MKM 2007, The 6th International Conference on Mathematical Knowledge Management.
   June 27–30, 2007, Hagenberg.
6. 2nd RISC Training School, SCIEnce project
   June 24–July 8, 2007, Hagenberg.
7. AB'07, 2nd International Conference on Algebraic Biology.
   July 2–4, Hagenberg.
8. ISPDC'07, 4th International Conference for Parallel and Distributed Computing.
   July 5–7, 2007, Hagenberg.



Planning of the Second Training School

- Courses and tutorials on applications of symbolic computation in biology.
- Participants can attend the Algebraic Biology 2007 conference, take part in joint tutorials.