Introduction

It is more than 10 years since we have published our first special issue devoted to the Computer Algebra. For us it was a starting point for the development of Computer Algebra in Moldova. Looking back we can say that this was a period during which we have found our own place in this very important part of modern Computer Science. It was, of course, impossible without the help of our colleagues from other countries, without the financial support from INTAS and Swedish Academy of Science. In fact the most part of articles, published in this issue was supported by INTAS project Nr 05-104-7553 and we are very grateful for this important help.

It is interesting to compare old and new issues. The systems which were just introduced in the previous issue (Singular, Anick) are now actively used to obtain much more sophisticated and fine results. Gröbner bases and non-commutative computations which were something new at that time, now are the standard topics for student courses. Today they became natural instruments and there are applications and user friendly implementations of those instruments that are of main interest. Differential algebraic equations, Cryptography, Integration - these are the topics of non-commutative Computer Algebra in this issue and such development is amusing!

Even "classic" topics, such as solving of the system of equations, optimization of algorithms, homogenization and studying of singularities are presented in this issue, but the level is much higher than ten years ago. In some sense the modern Computer Algebra has achieved the micro level: it helps us to study invisible details and the development of the software itself is also on the microscopic level: invisible (for the user) contributions for the essential improvements of the main algorithms. It is Fine Computer Algebra!

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