SONIC'95: Student Mini-Symposium On Interval Computations

SONIC'95: Студенческий минисимпозиум по интервальным вычислениям

A Student mini-symposium ON Interval Computations (SONIC'95) that was held in the University of Houston-Downtown, Houston, Texas, on October 21–22, 1995, was organized as part of the first SC COSMIC (South and Central Computational Science in Minority Institutions Consortium) Student Conference on Computational Science. The main goal of this conference was to promote computational science education and research at minority institutions in the South and Central United States. This conference was sponsored by the National Science Foundation (grant No. CDA 9522903), by the University of Houston-Downtown, and by the Center for Research on Parallel Computation (CRPC) at Rice University. The Center has a long tradition of supporting interval research: Dr. Ken Kennedy, the Director of CRPC, and Dr. Richard Tapia, the Director of Outreach and Minority Education Program of CRPC, have collaborated with Dr. Chenyi Hu and his students in testing different interval parallel algorithms on highly parallel CRPC computers. The results of this collaboration have appeared in several journals, including *Reliable Computing*.

SONIC'95 started with a keynote address by R. Baker Kearfott titled "Introduction to Interval Methods and Software—Why do we use Interval Methods and How do they Work?". Then, the following students presented their talks:

Manoranjan Baral: Interval-Based Internet Reservation Techniques In Which a Message with a Deadline is Either not Accepted or Delivered by the Deadline

Leticia S. Chee: Computing the Value of a Boolean Expression with Interval Inputs is NP-Hard

German Altgelt: A Language for Gigabyte Data Processing, and its Use at Sunspot Observatory

Angelina Cardenas: A Study on Interval Lagrange Interpolation

Frank Fernandez: Internet-Accessed Data Transforms an Approximate Computer Simulation of a Spacecraft into a Verified 3D Model

Several interval-related talks were also presented at the conference itself.

Extended abstracts of the talks presented at SONIC and at the conference are available at the COSMIC Web site

`http://www.cs.rice.edu/CRPC/SC-COSMIC/`

maintained by CRPC. For hardcopies of the abstracts, please contact Dr. Chenyi Hu, chairman of the Organizing Committee; his email is `chu@uh.edu`, his mailing address is:

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Houston is often called the space capital of the world. Every Houstonian knows that after the first men landed on the Moon, their first word was "Houston". No wonder that at the banquet, the main speaker was from NASA: Professor Bowen Loftin, the main NASA specialist on what is called *virtual reality*, gave a very interesting talk on "Virtual Environments: A New Tool for Training, Education, and Data Visualization", in which he described how virtual reality helps in training astronauts. These training tools do not (yet) use interval techniques, because their current goal is feasibility, not guaranteed results, but since interval computations are actively used in graphics, they may be incorporated at a later stage.

The conference was very well organized. Students from different institutions got to know each other. Students who arrived the day earlier were treated to a tour of Rice University and CRPC facilities. A decision was made to organize such events regularly. The next student conference is scheduled to be held in El Paso in October 1996.

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