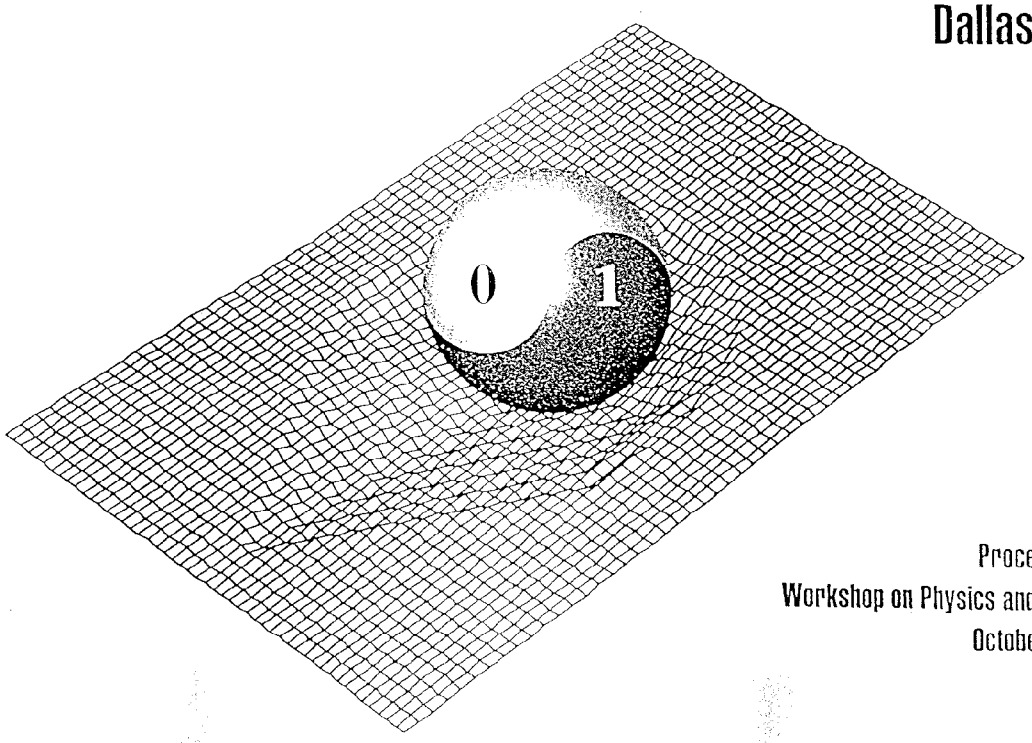
PhysComp '92

Workshop on Physics and Computation

PhysComp '92

October 2–4, 1992
Dallas, Texas



Proceedings of the
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Sponsored by
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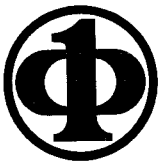

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Message from the Chairman

The Workshop on Physics and Computation, PhysComp '92, was a big success, thanks to all the efforts of the committee members and each of the participants. This workshop was long overdue since the first major conference on the Physics of Computation was held at MIT over a decade ago. The eager participants were thrilled that another conference in this area was finally organized. It was agreed that another workshop or conference would be organized for 1994.

Almost 60 papers were presented and nearly 100 people attended representing five countries. The attendance was an interesting mix of people from industry, universities, government agencies, and the press. Most participants felt the workshop exceeded their expectations. Many new collaborative efforts have started since the workshop. An electronic mailing list was started (subscribe by sending mail to physics.computation-request@hc.ti.com) allowing easy contact with other people in this emerging field.

This workshop was organized as a result of an IDEA grant from Texas Instruments. My justification in applying for this grant was based on my interest in formalizing a Theory of Computation/Software that is consistent with General Relativity and Quantum Theory, the two most successful theories of our time. A successful predictive theory of computation would lead to a better understanding of using parallel physical mechanisms as computing engines and also to a better understanding of how the universe is organized. It is my belief that progress on these theoretical topics is necessary to keep the computer industry growing. I want to thank Texas Instruments for the support of the IDEA grant program, which allowed this kind of work to be funded.

The keynote speaker, Rolf Landauer, deserves a special thanks. He committed very early to be the keynote speaker, and thus almost guaranteed a successful workshop due to his association with the program. A huge thanks also goes to the banquet speaker, Edward Fredkin, who gave a stimulating and entertaining talk. Both of these men were co-sponsors of the 1981 conference and they always seem to be adept at challenging conventional ideas.

Many thanks go to Steve Ford, the Arrangements Chairman. Because of his contribution, the arrangements at The Harvey Hotel, Addison, were flawless and this allowed all the participants to concentrate on the real task at hand. James Bondi, Paul Chiang, and Gene Meyer of the Dallas Chapter of the IEEE Computer Society deserve a big thanks. The Dallas IEEE sponsorship and their help were instrumental in a successful workshop. I would also like to thank the program committee members Rob Farrow, Riley Jackson, Andy Penz, and Paul Stanford, who helped organize and coordinate the panel sessions that encouraged maximum participation.

A real thanks goes to all the participants who believe this work is fundamental to the computer industry and our understanding of nature. We must keep working hard to understand the emerging relationship between physics and computation.

Doug Matzke
Workshop Chairman

PhysComp '92

Conference Chairman

Douglas J. Matzke

Arrangements Chairman

Steve Ford

Program Committee

Rob Farrow
Riley Jackson
Douglas Matzke
Andy Penz
Paul Stanford

Arrangements Committee

James Bondi
Paul Chiang
Steve Ford
Gene Meyer

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Contents

Session 5

Session 6

Session 7

Session 8

Session 9

Other Papers