

RESEARCH ARTICLE | JANUARY 01 1992

## HCP Arrangements Give Identical Structures

Barry G. DeBoer



*Comput. Phys.* 6, 10 (1992)

<https://doi.org/10.1063/1.4823037>



### Articles You May Be Interested In

Researchers Should Get Credit

*Comput. Phys.* (January 1992)

Close pairs of relative equilibria for identical point vortices

*Physics of Fluids* (May 2011)

Dynamic testing of subgrid models in large eddy simulation based on the Germano identity

*Physics of Fluids* (February 1999)

# OPTICAL RAY TRACERS

for IBM PC, XT, AT,  
& PS/2 computers

## BEAM TWO \$89

- for students & educators
- traces coaxial systems
- lenses, mirrors, irises
- exact 3-D monochromatic trace
- 2-D on-screen layouts
- diagnostic ray plots
- least squares optimizer
- Monte Carlo ray generator

## BEAM THREE \$289

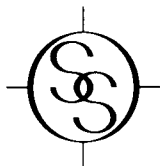
- for advanced applications
- BEAM TWO functions, plus:
- 3-D optics placement
- tilts and decenters
- cylinders and torics
- polynomial surfaces
- 3-D layout views
- glass tables

## BEAM FOUR \$889

- for professional applications
- BEAM THREE functions, plus
- full CAD support: DXF, HPG, PCX, and PS files
- twelve graphics drivers
- PSF, LSF, and MTF
- wavefront display too
- powerful scrolling editor

EVERY PACKAGE INCLUDES  
8087 & NON8087 VERSIONS,  
MANUAL, AND SAMPLE FILES

WRITE, PHONE, OR FAX US  
FOR FURTHER INFORMATION



## STELLAR SOFTWARE

P.O. BOX 10183  
BERKELEY, CA 94709  
PHONE (510) 845-8405  
FAX (510) 845-2139

## NEWS

tures up to 16 processors operating at 250 MHz, yielding an overall capability of 16 Gflops.

Cray Computer Corp. (Pleasanton, CA) also had a booth at SC'91 (this company's first show participation anywhere), and was exhibiting the technology for the soon to be delivered Cray 3 system. The Cray 3 will use gallium arsenide logic, operate at 500 MHz, and have a peak speed, with 16 processors, of 16 Gflops.

### Students

Since the first Supercomputing conference in 1988, the steering committee has put heavy emphasis on the involvement of students. At SC'91 a number of student volunteers from all over the country were given registration, copies of the proceedings, and access to all events, in return for working with the conference committee on the daily operation of the conference. These students in their distinctive tee shirts were a constant help and reminder of the importance of the next generation of computer and science professionals.

There were also a number of events involving the growing number of high-school programs, and even a special high-school day, which was attended by more than 100 students from all over New Mexico.

### Next Meeting

Supercomputing '91 was jointly sponsored by the Special Interest Group on Architecture of the Association for Computing Machinery and the Computer Society of the Institute of Electrical and Electronics Engineers. Raymond L. Elliot of Los Alamos National Laboratory served as general chair, while Ken Kennedy of Rice University served as program chair.

A steering committee that includes representatives of many of the major institutions involved in high-performance computing, including NSF centers and DOE and NASA laboratories, meets to oversee and provide continuity to the Supercomputing series of conferences. The next Supercomputing conference will be held in Minneapolis, MN, on November 16-20, 1992. Supercomputing '93 will take place the following year in Portland, OR. ■

## LETTERS

We invite you to mail your thoughts and comments to: *Letters, Computers in Physics*, 500 Sunnyside Blvd., Woodbury, NY 11797. Letters may be edited for length and clarity.

### HCP Arrangements Give Identical Structures

In G. S. Pawley's article ("A simple model for the molecular dynamics of condensed phases," Sep/Oct 1991), six "different" two-dimensional structures composed of equilateral-triangle molecules are discussed and illustrated. It is pointed out that, for the special potential function chosen, all have the same potential energy and radiation distribution function. The reason for this is that all of the structures discussed in Section III and shown in Figs. 1-6 are identical. All are the hexagonal closest packing of atoms in a plane and differ only by where the lines marking out molecules are drawn. But since all have identical interatomic vector sets, the selection of certain vectors as bonds is meaningless. Homometric structures do exist (M. J. Buerger, *Vector Space and Its Application in Crystal-Structure Investigation*, John Wiley and Sons 1959, discusses them, as do many other books on crystallography), but this is not an example.

Dr. Barry G. DeBoer  
GTE Products Corporation  
Danvers, MA 01923

### Researchers Should Get Credit

The authors of the article "Real-Time Relativity" in your Jul/Aug 1991 issue wrongly identified our research done on relativistic rendering at Carnegie Mellon University as work done by *Science News* editor Ivars Peterson. The *SN* article by Peterson, which the authors of your article cited as original work, was obviously a story about our research. The *SN* article also gave references to our peer-reviewed papers.

REST-frame, the relativistic renderers we have developed, incorporates