

## **LSC Six-Month Progress Report**

**Organization** Pennsylvania State University Relativity Group (PSURG)

**Report Date** August 15, 2002

Attachment D

### a) Bench development

Finn will continue to try and organize a meeting of bench users to chart the future use and development of bench. He will also work to add new astrophysical sources to the bench model, and verify the correctness of the benchmarks currently in the model.

Finn was unsuccessful in arranging a meeting of bench users. No new astrophysical source models were added to bench. The existing benchmarks were verified. Fritschel now maintains the reference version of bench.

### b) Sensitivity of advanced LIGO to gravitational radiation from known pulsars

Shapiro (undergraduate), supervised by Finn, will complete the write-ups of his study of the sensitivity of advanced LIGO to gravitational waves from known pulsars. The immediate goal is a senior thesis by 15 April, and a manuscript for publication by 15 August, 2002.

Shapiro submitted his senior thesis "Estimating upper bounds on the strength of gravitational waves from selected pulsars" in April, 2002. He was awarded the "Langhorne H. Brickwedde Recognition Award for Excellence in Undergraduate Physics" based on his thesis work. A publication based on the thesis is undergoing final revision by Finn in anticipation of submission to Physical Review D. Shapiro has begun graduate study at the University of Chicago.