

LSC Six-Month Progress Report

Organization University of Texas at Brownsville Relativity Group (UTBRG)
Report Date 08/15/1999

Attachment A - LIGO I

Item - Task 8 - a

A paper by S. Finn, S. Mohanty, and J. Romano on setting upper limits on the strength of gravitational waves associated with gamma ray bursts has been completed and was submitted for publication in Physical Review Letters. We have not yet heard back from the referee regarding the paper.

Item - Task 8 - b

Additional simulations (in MATLAB) have been performed which compare the performance of the cross-correlation and maximum-likelihood statistics when one has limited (a priori) knowledge of the intrinsic detector noise. It is still too early, however, to make a definitive statement as to which statistic is preferred. J. Romano plans to visit Penn State for two weeks this summer to continue working with Sam Finn on these issues.

Item - Task 8 - c

J. Romano has no new progress to report on this research item.

Item - Task 8 - d

M. Diaz has completed a calculation of the signal-to-noise ratio of the gravitational waves produced by the head-on collision of two black holes, using the close limit approximation of Price and Pullin. The values obtained are for the cases representing two black holes which are initially at rest and for two boosted black holes. The results were presented in the session on astrophysical sources at the Centennial meeting of the American Physical Society on March 24, 1999 in Atlanta, Georgia.