
Scientific Operation of LIGO

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LIGO construction has been completed. The three interferometers at the two LIGO observatory sites (Livingston, Louisiana and Hanford, Washington) have been operated successfully as power-recycled Michelson interferometers with Fabry-Perot arm cavities. Commissioning of the interferometers has progressed to operating them simultaneously in this final optical configuration. Initial coincidence operation between the observatory sites has provided a full test of the detector hardware and software subsystems, and full operation of the data acquisition and data analysis systems. The LIGO Laboratory and the LIGO Scientific Collaboration are working together to exploit the early series of interleaved engineering and science runs to commission the detector and data systems, to provide a detailed characterization of the detector and to produce the first scientific results from LIGO. The operation of LIGO is also coordinated with operation of the GEO 600 detector, the TAMA 300 detector and the Allegro resonant mass detector. The status of this early operation, including the first science run during 2002, and the resulting data study will be presented. The support of the US National Science Foundation under Cooperative Agreement No. PHY - 0107417 is gratefully acknowledged.

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