

# LSC Six-Month Research Plan

**Organization** University of Wisconsin-Milwaukee Relativity Group (UWMRG)

**Date** February 15, 2000 - August 15, 2000

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**Attachment** A - LIGO I

## **a) MPI Working Group**

Brady will coordinate the UWM effort (including Anderson, Brown, J. Creighton, T. Creighton, and Wiseman) to develop a shared object library for the wrapperAPI proof of principle. This library will contain routines to filter data for binary inspiral events. This code development will comply with the LAL specification wherever possible. Given the advanced timeline of the project -- preliminary tests in April 2000 -- not all code will be LAL compliant at the beginning; such code will eventually be brought into LAL compliance.

## **b) Excess Power Statistic / Rating 2**

Anderson, Brady, J. Creighton and Flanagan (Cornell) will submit a detailed manuscript to Phys. Dev. D. Anderson will assist in the coding of the power statistic algorithm to LAL standards.

## **c) Binary Inspirational Hierarchical Search Code**

Duncan Brown will continue to work on the hierarchical search slave-code for the master written by Allen and Creighton. This code will provide sufficient flexibility to perform an n-level hierarchical search. The filtering routines needed by the slave-code will be written as part of the wrapperAPI development described in item A above.

## **d) Matched-filter Veto Techniques / Rating 1**

Brady and Ottewill will complete their exploration of the parameter space veto. An implementation of the method will be provided for the LAL.

## **e) Continuous Wave Sources**

Brady and Teviet Creighton will continue to develop the stack/slide search code for continuous wave signals. The development timeline is described on the ASIS web page. LAL code is currently being written to compute and apply resampling parameters for a single set of sky/spindown parameters. By August 2000, code will be written for directed pulsar spindown searches, and testing will be underway using simulated and 40m noise.

Anderson, Brady and J. Creighton will produce documented Maple worksheets to calculate the response of each detector in the worldwide network to gravitational waves. This information is needed by the Michigan group for their veto development work. A technical document will be written for insertion into the DCC.

## **f) Binary Inspirational Chirp Template Generators / Rating 3**

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