RW CRITERIA
mtg 3/13

Criteria for Detection of Gravitational Waves

Impulsive signal

1) Observation in all three LIGO interferometers
   Same spectra (time series) to the limit of the statistics
   1:1, 1:2 amplitude ratio to the limit of the statistics
   Reasonable time delay between LA and WA
   Simultaneous in 2 and 4 km

2) Not observed in the environmental monitor channels

3) Not observed in the ancillary detector channels

Periodic signal (long integration)

1) Observation in all three LIGO interferometers
   Same frequency, frequency and amplitude modulation indices
   1:1, 1:2 amplitude ratio

2) Not observed in the environmental monitor channels

3) Not observed in the ancillary detector channels

Stochastic background

1) Observed in 4km(WA) ⊗ 4km(LA) and 2km(WA) ⊗ 4km(WA) statistical

2) Not observed with same delay in 4km ⊗ environmental channel

3) Not observed with same delay in 4km ⊗ ancillary channel

Recommend agreement with all other detector groups, with corresponding sensitivity, to establish if observation has been made (preferably a joint announcement) and, if not, to jointly arrive at a reasonable hypothesis why not.

Note 1, Linda Turner, 04/20/98 04:25:11 PM
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