

Biting Off Just Enough to Chew: A new gravitational wave burst search method makes the most of computation time.

Scientists at the *NSF Center for Gravitational Wave Physics* have developed a new method for searching for gravitational wave signals.

This approach is similar to any general investigation which must characterize all input, isolate pertinent cases, recognize wide spread coincidences, and focus on a relevant subset to quickly determine the cause.

Identifying gravitational waves from burst sources is an involved and computationally expensive process. The *BlockNormal Event Trigger Generator* maximizes computation time with the following method:

- LIGO data is broken into blocks of time characterized by a mean and a variance.
- Blocks with characteristics that stand out compared to the longer data segment containing them are isolated for consideration as unusual events.
- Unusual events which occur simultaneously in different detectors are recognized as triggers.
- Intense analysis techniques are focused on triggers, thus reducing the total computing time needed to search for burst gravitational wave events.

2004 Classical and Quantum Gravity 21 S1705-S1710, McNabb, Ashley, Finn, Rotthoff, Stuver, Summerscales, Sutton, Tibbits, Thorne and Zaleski.

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