

CAGMon: Identifying noise correlation between multi-channels of KAGRA gravitational-wave observatory

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Ground-based gravitational-wave telescopes like LIGO, Virgo, and KAGRA are made up of a complex and sensitive array of advanced instruments. As a result, they are impacted not just by the combination of mechanical and electrical systems, but also by their surroundings. It is important to improve the signal-to-noise ratio and minimize the false alarm rate from concurrent spurious events in order to classify and reduce disturbances from numerous channels interconnected by such devices and surroundings for the detection of gravitational waves. As a result, identifying relationships between inter-correlated channels is critical. In this poster, we offer *CAGMon*, a new tool for finding (non-)linear couplings between inter-correlated channels that may be used in gravitational-wave detector applications.