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Application of a zero-latency whitening filter to compact binary coalescence gravitational-wave searches

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We examine the performance of a zero-latency whitening filter in a detection pipeline for compact binary coalescence (CBC) gravitational-wave (GW) signals. We find that the filter reproduces sufficiently consistent signal-to-noise ratio (SNR) for both noise and artificial GW signals (called injections) with the results of the original high latency and phase preserving filter. Additionally, we demonstrate that these two filters have a great agreement of squared-chi value, a discriminator for gravitational wave signals.

Auteur principal: M. TSUKADA, Leo (The University of Tokyo)

Co-auteurs: M. HANNA, Chad (The Pennsylvania State University); M. MESSICK, Cody (The Pennsylvania State University); M. MEACHER, Duncan (The Pennsylvania State University); M. CANNON, Kipp (The University of Tokyo)

Orateur: M. TSUKADA, Leo (The University of Tokyo)

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