

Abstract Submitted
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Regression of Environmental Noise in LIGO data¹ VAIBHAV TIWARI, SERGEI KLIMENKO, Department of Physics, University of Florida — We address the problem of noise regression in the output of gravitational-wave interferometers using data from the environmental monitors (PEM). The objective of the regression analysis is to predict environmental noise in the gravitational-wave (GW) channel from the PEM measurements. One of the most promising regression method is based on the construction of Wiener-Kolmogorov filters. In the presented approach the Wiener-Kolmogorov method has been extended incorporating banks of Wiener filters in the wavelet domain, multi-channel analysis and regulation schemes, which greatly enhance the versatility of the regression analysis. Also we presents the results on regression of the bi-coherent noise in the LIGO data.

¹NSF

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