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Surrogate Wiener filtering for the prediction and optimized cancellation of Newtonian noise at Virgo

Monday, 22 March 2021 13:00 (30 minutes)

The recording of Francesca's presentation is here:
https://www.dropbox.com/s/1zyw3uav046ozkd/francesca.mp4?dl=0

Advanced Virgo+ will enhance its sensitivity for the upcoming run, O4. This means that Newtonian noise might dominate in the low-frequency band. Fo this reason, it is critical working to reduce it as well. This will be achieved through active noise cancellation. It is of fundamental importance to understand how to optimally deploy an array of seismic sensors dedicated to active noise cancellation. This talk will present a new technique that allows us to use existent seismic data to construct a surrogate Wiener filter model bypassing all the difficulties related to the computational effort required by the task.

Presenter: BADARACCO, Francesca