

Abstract Submitted  
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**Fast Greedy Optimization of Sensor Selection in Measurement with Correlated Noise**<sup>1</sup> KEIGO YAMADA, YUJI SAITO, Tohoku University, TAKU NONOMURA, Tohoku University, Presto, JST, KEISUKE ASAI, TOMOHIRO OKUDERA, Tohoku University — In the present study, a novel determinant-based greedy method under the correction from a covariance matrix of sensor noise intensity is proposed. This method selects noise-tolerant sensors to minimize the reconstruction error of the weighted least square problem considering sensor noise covariance. Especially, the presented algorithm prevents us from selecting similar points which have similar sensor noise, resulting in the reliable estimated state. We apply the method to the climate datasets of the National Oceanic and Atmospheric Administration (NOAA) and compare the results to those of the conventional method. This comparison shows that the proposed method creates accurate reconstruction system even with the correlated sensor noises.

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