Dynamic Mode Decomposition based on Bootstrapping Extended Kalman Filter Application to Noisy data[1] TAKU NONOMURA, Tohoku University, HISAICHI SHIBATA, RYOJI TAKAKI, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency — In this study, dynamic mode decomposition (DMD) based on bootstrapping extended Kalman filter is proposed for time-series data. In this framework, state variables (x and y) are filtered as well as the parameter estimation (a_{ij}) which is conducted in the conventional DMD and the standard Kalman-filter-based DMD. The filtering process of state variables enables us to obtain highly accurate eigenvalue of the system with strong noise. In the presentation, formulation, advantages and disadvantages are discussed.

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