Abstract Submitted
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A generalized mean-field model for the natural and high-frequency actuated flow around a high-lift configuration[1] DIRK M. LUCHTENBURG, BERT GÜNTHER, BERND R. NOACK, RUDIBERT KING, Berlin University of Technology, Germany, GILEAD TADMOR, Northeastern University, Boston, USA — A low-dimensional model is proposed for the flow around a high-lift configuration. The resolved dynamics include natural vortex shedding, the lift increasing effect of high-frequency forcing and transients. This model utilizes steady state and transient uRANS simulation data for the extraction of an empirical basis. The form of the dynamical system has been derived from a generalized mean-field consideration. The system parameters are determined with a calibration technique.

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