

Abstract Submitted
for the DFD12 Meeting of
The American Physical Society

Maximum-entropy principle as Galerkin modelling paradigm¹

BERND R. NOACK, Institute PPRIME, France, ROBERT K. NIVEN, ADFA/UNSW, Australia, CLARENCE W. ROWLEY, Princeton University, USA — We show how the empirical Galerkin method, leading e.g. to POD models, can be derived from maximum-entropy principles building on Noack & Niven 2012 JFM. In particular, principles are proposed (1) for the Galerkin expansion, (2) for the Galerkin system identification, and (3) for the probability distribution of the attractor. Examples will illustrate the advantages of the entropic modelling paradigm.

¹Partially supported by the ANR Chair of Excellence TUCOROM and an ADFA/UNSW Visiting Fellowship

Bernd R. Noack
Institute PPRIME, France

Date submitted: 02 Aug 2012

Electronic form version 1.4