1 Introduction

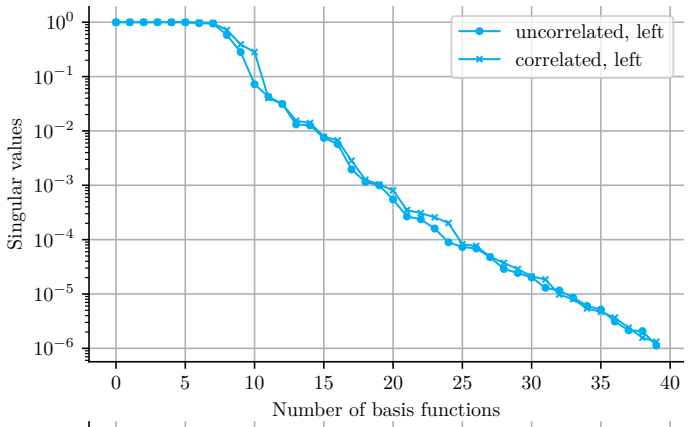
2 Methods

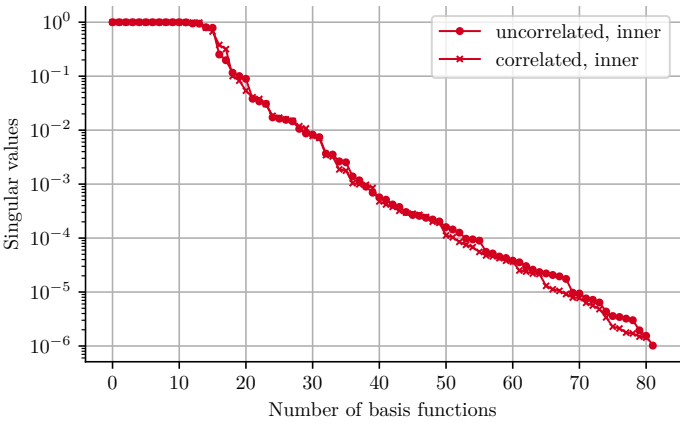
3 Results

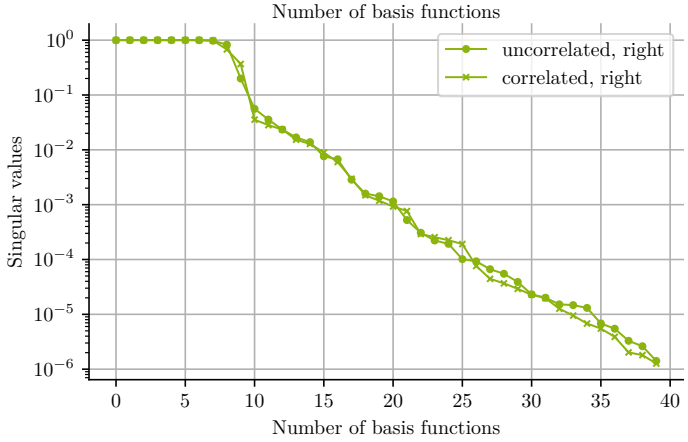
3.1 Basis Construction

For the beam problem, there are three oversampling problems to consider (left, inner, right). For each of the associated parametric transfer operators, n_{train} parameter samples are chosen, and the range for each of these (fixed) transfer operators is approximated via random sampling. In the sampling *normal* or *multivariate normal* distribution is used. The range approximation of the n_{train} transfer operators yields n_{train} sets of basis functions, which are further compressed via POD, to obtain the final parameter independent basis functions (POD modes).

3.1.1 Singular values of POD modes

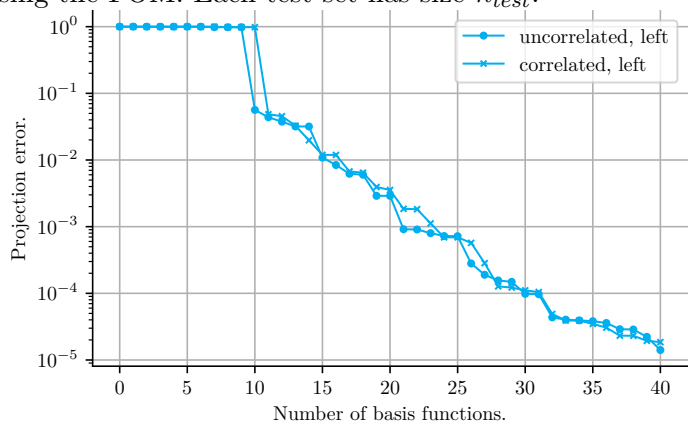


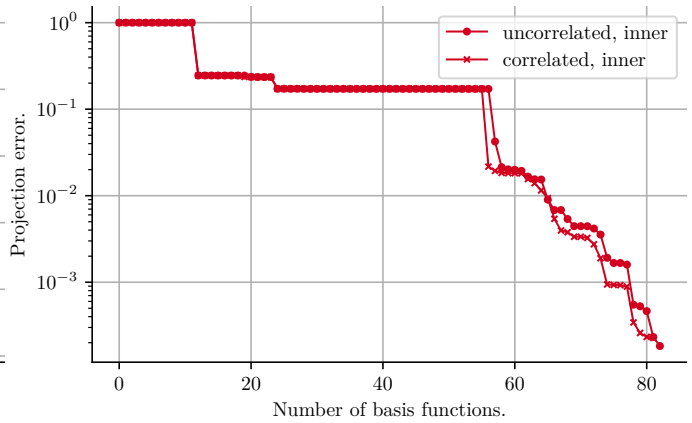


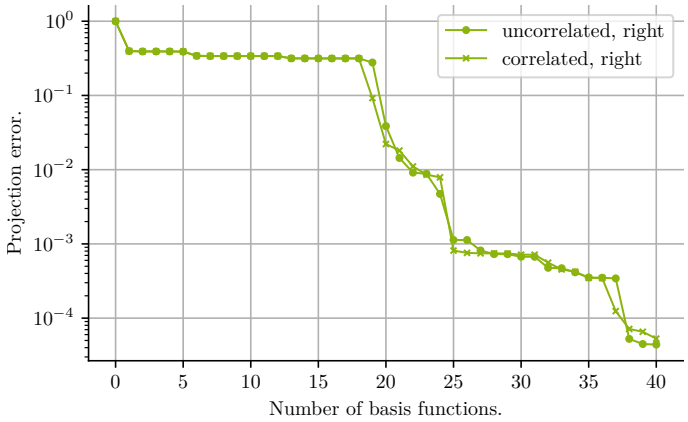


3.2 Projection Error

The projection error is computed for a test set for each configuration that was computed using the FOM. Each test set has size n_{test}.







4 Conclusions