Modal Projection Matching on Box Assembly with Removable Component

The Box Assembly with Removable Component (BARC) is a challenge problem introduced to the structural dynamics community to demonstrate a flexible field environment boundary condition for a test component. The goal of the challenge problem is to reproduce the field environment response of the removable component (Device Under Test), in the test laboratory. A rigid vibration fixture was utilized for a laboratory test fixture and the Modal Projection Matching (MPM) approach was used to determine the closest possible matching dynamics in the test laboratory to the field environment response of the removable component with a rigid test fixture.