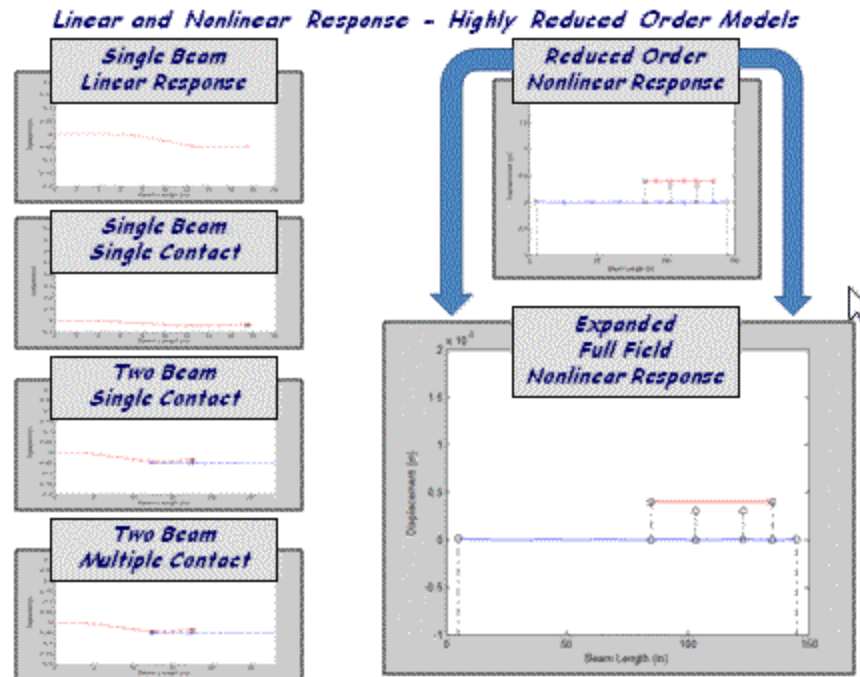


Linear and Nonlinear Response Predictions from Highly Reduced Order Component Models Interconnected with Linear and Nonlinear Connections



This work takes the response of linear modal components interconnected with nonlinear connection element to predict full field nonlinear strain. The basic nonlinear response modelling is extended from reduced order model displacements to full field response. This is then used in conjunction with the full finite element model to predict dynamic strain in the presence of discrete nonlinear connection element which causes nonlinear response. The results compare very well with the full finite element model solution for the nonlinear response with significant reduction in solution times.