

FINITE ELEMENT ANALYSIS FOR RATING AND REHABILITATION OF OLD MASONRY ARCH BRIDGES-PART 1 RATING ANALYSIS

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Abstract

This paper mainly deals with method of rating analysis (to assess the strength of existing structure) for old masonry bridges. It has mainly two objectives first being to present salient features of the methodology of three-dimensional finite element analysis of the arch bridge system. Second being to demonstrate the application of the analysis software for the rating analysis of existing bridges in Maharashtra state (India) with particular reference to an old masonry bridge on Pedhi river near Amaravati. The work presented in the paper discusses the method of analysis and offers conclusions based on the analysis performed.

Keywords: rating analysis, arch bridge, bridge widening, FEM