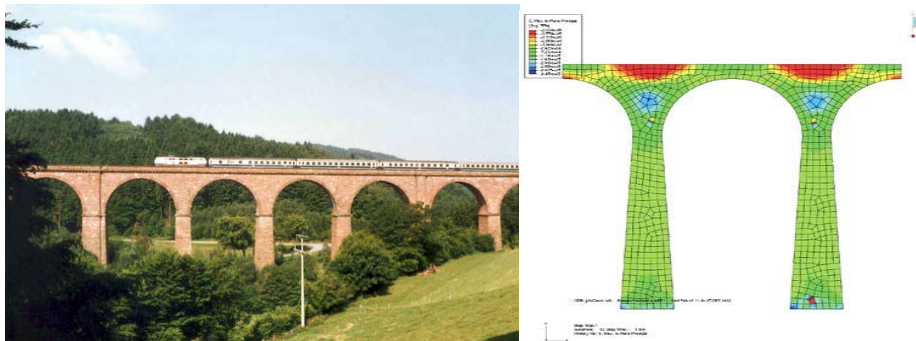




SS-2016-003-UHC

Numerical Recalculations of an Old Masonry Railway Bridge (Himbächel-Viadukt)

From the early 19th century on operation of trains and railways were a basic requirement for the industrial development of Europe. As reinforced concrete was not yet available until the beginning of the 20th century railway bridges initially were built from masonry to a large extent. Some of them are still under operation until today, e.g. the Himbächel-Viadukt. But the loading conditions changed compared to those assumed for their initial design. Thus, recalculations have to be performed to control bearing capacity and usability of, e.g. the Himbächel-Viadukt, under the conditions of current railway traffic. This study aims to use the Finite Element Method to model the geometry and the nonlinear behavior of masonry, especially its very limited tensile strength, for the simulation of the structural behavior of this particular railway bridge. Programs like ConFem and Abaqus shall be used.



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