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# Advanced numerical approaches applied to the analysis of railway infrastructures

Scientific area: Computational Solids And Structural Mechanics

Due to the climate emergency, the railway has been assumed as key mean of transport for people and goods, with the aim of reducing CO2 emissions, following sustainable and ecological mobility policies. In this context, significant research projects have been carried out to propose new numerical methodologies to optimise the infrastructure management, ensure structural integrity and define strengthening tasks. Similarly, strategies have been proposed to mitigate the impact of train movements on the surrounding environment (propagation of vibrations and noise, for example) and the effects on passenger comfort, based on numerical approaches. Such advances are key factors in extending the life of existing infrastructures and in designing new infrastructures, meeting demanding safety criteria. In this framework, this mini-symposium aims to discuss the development of numerical methodologies applicable to railway infrastructures, such as bridges, tunnels, ballast and ballastless tracks.

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