

**Methodology for Risk Assessment of Railway
Based on Seismic Analysis Model**

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In this study, we have proposed the methodology for risk assessment in which the damage of human, railway structure, and train car, and also operating loss are considered. This method is composed of the following steps. 1) The ground motion from some seismic sources is simulated and the occurrence probability is calculated based on an analytical model. 2) The sequence of derailment events is analyzed by event tree analysis. 3) The risk is estimated based on these results. We have implemented some case studies to evaluate the validity of this method.