

**Seismic Performance Evaluation of Railway Buildings
with Smart Passive Damper**

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Since the mass ratio in the vertical direction is different, seismic response of the platform sheds of the elevated station increases in many cases. In this paper, with the purpose of reducing response of the platform sheds of the elevated station, we examined the applicability of the inertial mass damper to the elevated station. It was verified by using the lumped mass model that the seismic weight can be adjusted and the response of the platform sheds can be reduced by use of the inertial mass damper. However, under some conditions, there are cases where the response of the viaduct or sheds increases. Further, by analyzing the frame model, we confirmed that the reduction effect can be obtained by installing platform sheds of a knee brace type.