

## **Vibration Suppression Method of Electric Railway Pole with Viscoelastic Damper**

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A damping device for an electric railway pole has been invented in order to reduce the degree of vibration of overhead contact lines caused by an earthquake or a passing train. The authors conducted theoretical analyses of pole response equipped with the damping device and the vibration test of a real scale pole. The damping device is a sandwich structure consisting of several steel plates and viscoelastic bodies, which has a damping effect even for minute displacement. It has been confirmed that the analytical result is almost identical to the result of vibration test in case of a steel-pipe pole, and in the vibration test the damping device increases the loss factor ten-fold higher compared to that of the simple steel-pipe pole. In the vibration test of a concrete pole, the damping device reduces the maximum bending moment approximately one half of that of the simple concrete pole.