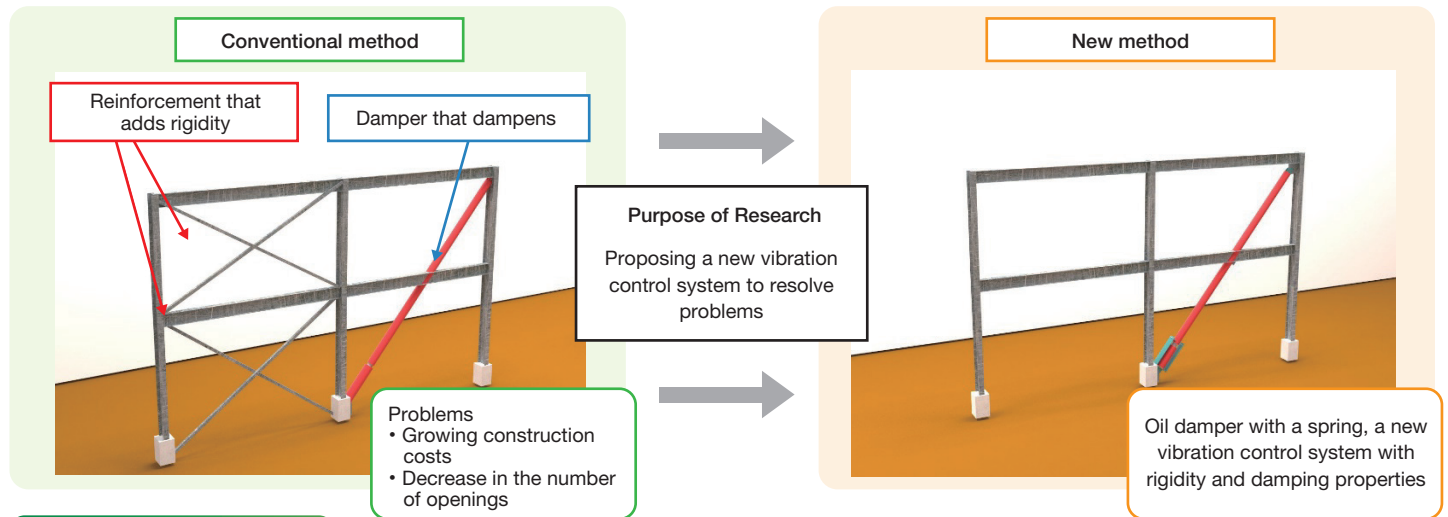


Osamu TAKAHASHI (Professor, Department of Architecture, Faculty of Engineering, Tokyo University of Science)

Purpose of Research

Develop a new vibration control system to solve problems with methods used when reinforcing buildings based on old earthquake standards.

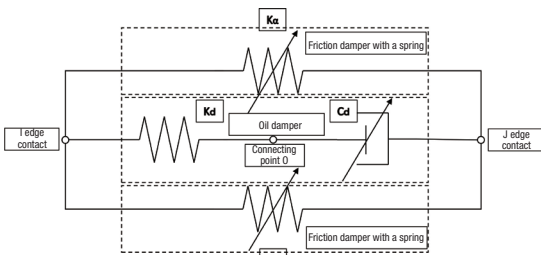


Summary of Research

The oil damper with a spring is a new vibration control damper that combines an oil damper for building vibration control and visco-elastic and highly damping materials.

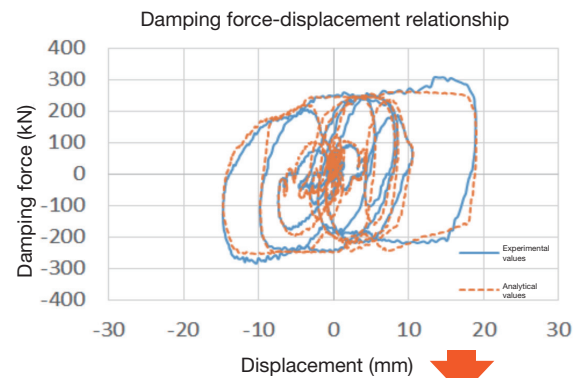


Oil damper with a spring as a test body



Analytical model of the oil damper with a spring

Comparison of the results of experiments and those of analysis



- With respect to random input waves, the results of analysis enable tracing of the results of experiment with sufficient accuracy.
- Use of the analytical model of the proposed oil damper with a spring enables analysis of vibration in the structural design of actual buildings.

Points

- The new oil damper with a spring is more rigid and damping than the conventional type of building oil damper
- At the time of design, temperature dependency does not need to be considered in the range of temperatures at which the damper is expected to be used (room temperature to +50°C)

Future Developments

We will examine the vibration characteristics and structural safety of the damper in order to apply it to actual buildings.