

## 英文業績名

VERTICAL DISTRIBUTION OF SEISMIC DESIGN LOAD FOR SEISMICALLY ISOLATED BUILDINGS CORRESPONDING TO DIVERSITY OF SEISMIC ISOLATION DEVICES

## 英文概要

This paper proposes a vertical distribution of seismic design load of Seismically Isolated (SI-) buildings corresponding to diversity of seismic isolation devices such as hysteretic dampers and/or velocity-dependent dampers. This proposed method is based on earthquake response analyses of SI-buildings and obtained from the relationship between vertical distribution of shear force coefficient and response amplification generated by higher modal responses.

Generally, it is ideal for SI-buildings that superstructure behaves as rigid body. Therefore, there are simple seismic design codes in several countries using Equivalent Linearizing Method for SI-buildings which are modeled as single degree of freedom system. However, when superstructure doesn't behave as rigid-structure or stiffness of seismic isolation device is high rigidity, higher modal responses were probably generated. This paper shows this phenomenon is explained by non-linear modal analysis with free-free vibration mode. In addition, it is confirmed that this proposed method adapts to various models of SI-buildings.