1. INTRODUCTION

- Seismic isolation retrofit for the large-scale cultural assets building built 70 years ago.
- Selection of the most suitable method of seismic retrofit work method by objective evaluation from 5 plans. (FIG.1)
- Consideration to the simulated earthquake motion expected to occur in a giant earthquake based on the latest knowledge.

2. SELECTION OF SEISMIC RETROFIT WORK METHOD

we selected seismic retrofit as the optimum work method in consequence of scrutiny of the main building’s characteristics and careful and objective comparisons and examination of methods in cooperation with academic experts.

3. SIMULATION EARTHQUAKE MOTION BASED ON THE LATEST KNOWLEDGE

The designer, and academic experts agreed to jointly create simulated earthquake motions of this district for design at the owner’s expense, as the academic experts proposed.

The resultant simulated earthquake motions “Sannomaru Waveforms” were, as expected, earthquake motions with relatively large amplified long-period components. (FIG.2)

4. OUTLINE OF SEISMIC ISOLATION RETROFIT DESIGN

Three features: 1) consideration is given to long-period earthquake motions expected to occur in a giant earthquake; 2) column-to-column intervals are small, up to four columns are collectively supported by a single seismic isolation member as a seismic design approach to the cultural asset with many columns for the purpose of a long-period structure, and cost reduction is achievable by reducing seismic isolation members; (FIG.3) and 3) the 丁-shaped plane building is designed to exhibit behavior as a seismically isolated, integral building.