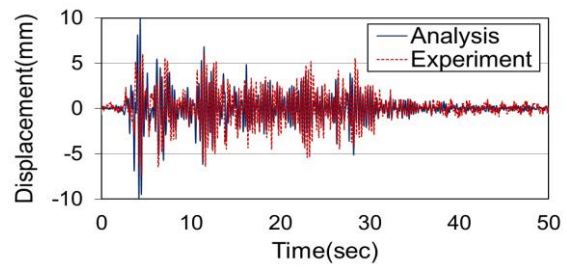
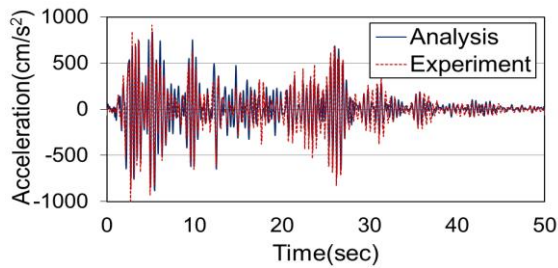


(a) Acceleration response

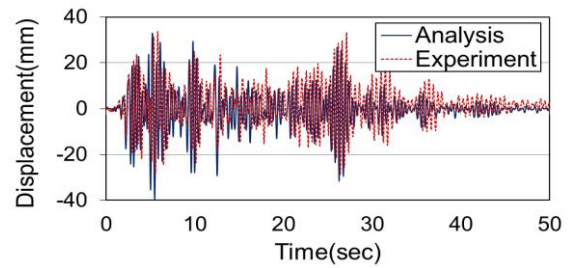


(b) Displacement response

Fig. 8 At 100% scale of the excitation - rigid zone length : 427mm



(a) Acceleration response



(b) Displacement response

Fig. 9 At 167% scale of the excitation - rigid zone length : 200mm

5. CONCLUSIONS

In this study, the nonlinear dynamic analysis of the frame with waist-high spandrel wall was carried out to evaluate the effect of rigid zone of the column. The analysis was considered varying the length of rigid zone. The analysis results applying the rigid zone by AIJ standard (about 1/10 of the height of the spandrel wall) were similar with the test results at initial steps. However, when the frame was damaged severely at the final step, the rigid zone was lower to about 2/5 of the height of the spandrel wall. Because it is difficult to consider the effective length of the column depending on damage, it is necessary to study with respect to the analysis method of model that can represent the change of the effective length of the column depending on the damage.

ACKNOWLEDGEMENT

This research was supported by a grant [NEMA-BAEKDUSAN-2012-1-4] from the Volcanic Disaster Preparedness Research Center sponsored by National Emergency Management Agency of Korea.

REFERENCES

- Architectural Institute of Japan (2010), AIJ standard for structural calculation of reinforced concrete structures, Architectural Institute of Japan.
- Arima, M. and Shioya, S. (2008), "Evaluation for the displacement of R/C columns in bending failure with spandrel wall", Proceedings of the Japan Concrete Institute, **30**(3), 205-210.