
The Paradigms of Non-Linear Finite Element Method Analysis to Complement the Structural Test for RC Frames

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It takes both great cost and a long time to confirm structural performance by tests using scale models. However, it is difficult to comprehend the structural performance of the elasto-plasticity regions of reinforced concrete structures using only an analysis program under the circumstances. Non-linear finite element method analysis was executed to complement the structural experiment data to produce a design guideline for RC buildings considered to be living spaces, namely, the slab-wall structural system and the wide flat-beam structural system. It was possible to reproduce the results of structural tests by FEM analysis. Based on the results of the analysis, the complicated-shape model that it was difficult to test was analyzed. The analysis results were reflected in the design guideline.