

# DAMPING CAPACITY OF REINFORCED CONCRETE EXTERNAL BEAM COLUMN CONNECTIONS

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## ABSTRACT

In this study experimental results are presented, obtained during an investigation on the influence of the axial load change in the external beam-column joints' damping capacity. Six full sized exterior beam-column joint specimens were tested. The increasing or decreasing of the load point displacement was simultaneous with the increasing or decreasing of the axial column's compression (or tension) load. It was concluded that the column's axial load change is important and causes a significant reduction in strength, stiffness, ductility and energy dissipation capacity. This effect cannot be neglected in either the analysis or design, as it may be the cause of premature instability. A new mechanism (with inclined bars) for improving the structural damping properties of earthquake resistance reinforced concrete exterior beam-column joints was examined and the results were very encouraging regarding the reduction of the unfavourable effects of the axial column load's change in the above (mentioned) structural elements.

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