



## **Strength of Masonry Infill RC Frame Influenced by Weak and Strong Type RC Frames**

**Kaushal Patel<sup>1</sup>, R N Dubey<sup>2</sup>**

<sup>1</sup>Research Scholar, Dept. of Earthquake Engineering, IIT Roorkee, India

<sup>2</sup>Associate Professor, Dept. of Earthquake Engineering, IIT Roorkee, India

### **Abstract**

Masonry is most commonly used as an infill material in RC buildings. It considerably increases RC buildings' lateral strength and stiffness if appropriately connected with the RC frame members. It has been observed from past earthquakes that if the infill walls are severely damaged, then it may put the life of persons inside the building in danger. So, it is crucial to determine the effect of infill walls on the behavior of RC buildings. The present study investigates the effect of varying percentages of steel reinforcement of beams and columns on the strength and damage pattern of the RC frame with and without infill. The RC frame is modelled in the Abaqus using the continuum modelling approach, and the masonry is modelled using a simplified micro-modelling method also known as discrete element modelling. It has been found that reinforcement percentage significantly affects the strength and damage pattern of the RC frame.

**Keywords:** RC frame, CDP, Infill masonry, Discrete element model