

## STUDY ON THE INFLUENCE OF STIFFNESS OF BEAM–COLUMN CONNECTIONS ON THE SEISMIC BEHAVIOR OF COMPOSITE MOMENT RESISTING FRAMES

Ahmed KHEMIS <sup>a\*</sup>, Messaoud TITOU M <sup>b</sup>, Aida MAZOUZ <sup>c</sup>, Amar LOUZAI <sup>d</sup>

<sup>a</sup> PhD; Laboratory of Materials and Mechanic of Structures, Mohamed Boudiaf University of M'sila, Algeria

\*E-mail address: [ahmed.khemis@univ-msila.dz](mailto:ahmed.khemis@univ-msila.dz)

<sup>b</sup> Prof.; Laboratory of Materials and Mechanic of Structures, Mohamed Boudiaf University of M'sila, Algeria

<sup>c</sup> Assistant Prof.; Laboratory of Materials and Mechanic of Structures, University of Mohamed El bachir el Ibrahim, Bordj Bou Arreridj, Algeria

<sup>d</sup> Assistant Prof.; Department of Civil Engineering, Mouloud Mammeri University of Tizi-Ouzou, Algeria

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### Abstract

**In the design of steel or composite structures, the connections are usually considered infinitely rigid or perfectly pinned. However, the real behavior of these connections is semi-rigid. Consequently, this semi-rigidity can influence the overall behavior of the composite structures, especially the moment-resisting frames. Seismically, the most critical parameter that characterizes the frames behavior is the response factor R. In this context, the research work consists of studying the semi-rigidity effect of the connections on the behavior of the composite frames by evaluating the response modification factor R by using the Pushover method. To accomplish this task, three types of portal frames of 3, 4 and 5 storeys were analyzed for different degrees of connection (beam-column). An easy and practical solution has been proposed to determine the approximate value of the coefficient behavior R for the composite frames with semi-rigid connections.**

**Keywords: Composite frames; Rigid joint; Semi-rigid joint; Pushover analyses; Behavior factor R.**