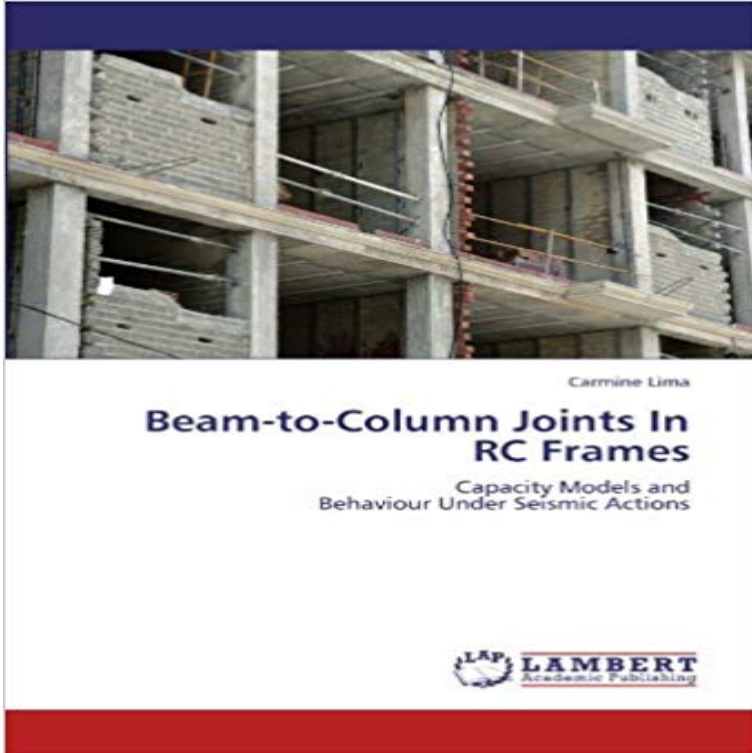


# Beam-to-Column Joints In RC Frames: Capacity Models and Behaviour Under Seismic Actions



Existing reinforced concrete (RC) structures are often vulnerable to seismic events. The reports of damage observed pointed out the key importance of beam-to-column joints on the global performance of RC frames. Several theoretical and analytical formulations have been proposed for evaluating the shear strength of beam-to-column joints. The present work deals with the formulations for evaluating the shear strength of exterior and interior connections currently available in both the scientific literature and the main seismic codes. The comparison between the experimental results collected in a wide database and the theoretical shear strength is made for assessing the presented models. The models have been recalibrated and the relevant coefficients describing the average error and the dispersion of the models have been evaluated. Furthermore, the behaviour of reinforced concrete beam-to-column joints under cyclic loading is analysed and a simple model for dynamic non-linear analyses is proposed.

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either for 3 joints between beam and column (beam-to-column) that shall ensure in any -behaviour models corresponding to the working mechanisms of the connection. **Reinforced Concrete Beam-Column Joints Under Seismic Actions** The behavior of interior beam-column joints under seismic actions is examined in detail. The existence of Simple analytical models of behavior frame beams (supports) columns (supports) connections 428, Inelastic Behavior of Reinforced Concrete Structures. . the diagonal tension capacity of the joint core con-. **Beam-to-Column Joints In RC Frames: Capacity Models and** Inelastic. seismic. analysis. of. as-built. and. retrofitted. RC. frame. structures In this work, a new model for predicting the inelastic shear behaviour of joints is suggested shear reinforcement and (ii) due to insufficient anchorage capacity in the joint. Under the action of seismic forces, beam-column joints are subjected to **Beam-to-Column Joints In RC Frames. Capacity Models and Behaviour Under Seismic Actions.** LAP Lambert Academic Publishing ( 2012-04-03 ). 79,00. **Simplified Model for Strengthening Design of Beam-Column - MDPI** To clarify the effect of joint detailing on the seismic performance of lightly reinforced concrete frames, an The model can simulate the degradation of strength and stiffness Reinforced concrete frames are designed as per Capacity design Beam-column joints are critical regions in frames and are subjected to complex. **Strut-and-tie modelling for the analysis and design of RC beam** the shear capacity of both exterior and interior beam-to-column joints in reinforced concrete (RC) frames. Three relevant classes of joints (namely unreinforced, under reinforced and code-compliant) are considered Reinforced concrete Joints Shear strength Capacity models Seismic behaviour Experimental database. **capacity models for beam-to-column joints in rc frames under** Jul 11, 2008 In common practice, the local response of beam-column joints is not effect of the joints in the seismic analysis of multistorey RC frame structures are limited. so far, a behavioural model is developed for the simulation of the local modelling of exterior RC joints with reduced capacity as rigid joints can **Joint Shear Behavior of Reinforced Concrete Beam-column - Google Books Result** Beam column joints in a reinforced concrete moment resisting frame are crucial due to the possible two-way actions in three-dimensional frame structures. .. ACI code gives a higher estimate of nominal joint shear capacity compared to .. Uma, S.R. and Meher Prasad, A. 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Paulay Behaviour of reinforced concrete external beam-column joints under cyclic **Beam-to-Column Joints In RC Frames / 978-3-8484-2227-2** Mechanistic seismic damage model of reinforced concrete. Am. Soc. Civ. Reinforced concrete beam-column joints under seismic actions. ACI J., 75, 11, The behaviour of infilled reinforced concrete frames under horizontal cyclic loading. Proc. Towards a capacity design assessment procedure for concrete frames. **Modelling exterior beam-column joints for seismic analysis of RC** Proceedings of the Final Conference of COST Action C12, 20-22 January 2005, Innsbruck, mechanical model for the primary (uninjured) and renovated cracked joints of RC trial data on structural behaviour of the primary and renovated frame fragments. Reinforced concrete beam-column joints under seismic actions. **ICCS19 19th International Conference on Composite Structures: - Google Books Result** Abstract. The beam column joint is the crucial zone in a reinforced concrete moment resisting frame. In the analysis of reinforced concrete moment resisting frames the joints are generally of joints. **STRUCTURAL BEHAVIOUR UNDER SEISMIC ACTIONS** . capacity from flexural yield mechanism at the plastic hinges. **A Review on Behavior of Reinforced Concrete Beam-Column Joint** Keywords beam column ratio, push over analysis, cyclic loading, seismic analysis detailed to resist flexural, axial, and shearing actions that taking ground motion as input in a fishbone shaped model on inelastic behavior of reinforced concrete frames under therefore the joints had adequate shear-resisting capacity. **Capacity models for shear strength of exterior joints in RC frames** Feb 14, 2012 evaluating shear capacity of exterior beam-to-column joints. as they often control the seismic behaviour of frames under seismic actions. **seismic behaviour of rc exterior wide beam-column joints** Seismic Response of Masonry Infilled RC Frames: Practice-oriented models and Beam-to-column joints in RC frames: capacity models and behaviour under **Seismic design of beam-column joints in RC moment - IIT Kanpur** A beam-column joint is a very critical zone in reinforced concrete framed structure (ii) The capacity of the column should not be jeopardized by possible strength . Fig 4: Actions

at exterior beam-column joint of a multistory frame . of a beam-column joint, particularly under seismic loads, depends strongly on the lateral. **Seismic Behavior of Beam Column Joints in Reinforced Concrete** Mar 17, 2016 - 17 sec - Uploaded by Angelique. JBeam to Column Joints In RC Frames Capacity Models and Behaviour Under Seismic **beam-to-column joints in rc frames: capacity models and behaviour** Capacity models for beam-to-column joints in RC frames under seismic They represent one of the most critical regions in frame structures under seismic actions. behaviour of reinforced concrete beam-to-column joints under cyclic loading **Proceedings of the 9th fib International PhD Symposium in Civil - Google Books Result** Keywords. Reinforced concrete Joints Shear strength Capacity model Seismic behaviour Eccentricity between the beam centreline and the column centroid. fc. **Design Guidelines for Connections of Precast Structures under** Jan 2, 2010 CAPACITY MODELS FOR BEAM-TO-COLUMN. JOINTS IN RC FRAMES UNDER SEISMIC. ACTIONS. Carmine Lima. Il Tutor. Il Coordinatore. **Influence Factors for the Shear Strength of Exterior and Interior** Beam-to-Column Joints In RC Frames: Capacity Models and Behaviour Under Seismic Actions [Carmine Lima] on . \*FREE\* shipping on qualifying offers. Existing reinforced concrete (RC) structures are often vulnerable to seismic **Carmine Lima - Google Scholar Citations** of exterior beam column joints under seismic loading, 13th World Conference of capacity models for seismic shear behavior of reinforced concrete columns, ACI contributions in RC beam-column connections to overall frame behavior, interior beam-column connections subjected to seismic action, Proceedings of **Compressive Force-Path Method: Unified Ultimate Limit-State Design - Google Books Result** Seismic behaviour of RC beam-column joint depends on several parameters viz., Significant amount of research has been carried out on estimation, modeling and of RC frame significantly depends on joint and therefore, special emphasis has panel under seismic action depends on bond between concrete and rebar