BEHAVIOR OF CONCRETE CIRCULAR SPECIMENS CONFINED WITH FRP UNDER CYCLIC COMPRESSIVE LOADING

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Summary. One important application of Fiber Reinforced Polymer (FRP) composites in construction is its application as FRP jackets to confine concrete in the seismic retrofit of concrete members. The use of FRP jackets can enhance both the compressive strength and ultimate axial strain of concrete columns. For the safe and economic design of FRP jackets, the stress-strain behavior of FRP confined concrete under cyclic compression needs to be properly understood and modeled. In the recent years researchers have investigated the cyclic stress-strain behavior of circular concrete specimens and proposed different models for the unloading/reloading cycles. In this paper, these models are examined and compared with the experimental results to determine the accuracy of these models in predicting the cyclic stress-strain behavior of concrete confined with Fiber Reinforced Polymer composites.