

Seismic Behaviour of CFST-RC Columns

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Abstract : Concrete Filled Steel Tube (CFST) columns are widely used in Civil Engineering Structures due to their abundant properties. CFST-RC column is a built up column in which CFST members are connected with RC web. The CFST-RC column has excellent static and earthquake resistant properties, such as high strength, high ductility and large energy absorption capacity. CFST-RC columns have been adopted as piers in Ganhaizi Bridge in high seismic risk zone with a highest pier of 107m. The experimental investigation on scaled models of similar type of the CFST-RC pier are carried out. The experimental investigation on scaled models of similar type of the CFST-RC pier are carried out. Under cyclic loading, the hysteretic performance of CFST-RC columns, such as failure modes, ductility, load displacement hysteretic curves, energy absorption capacity, strength and stiffness degradation are studied in this paper.

Keywords : CFST, cyclic load, Ganhaizi bridge, seismic performance

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