عنوان فارسی مقاله:
 آزمایش دیوار برشی فولادی با ستون مرکب نیم بسطه و اتصال قاب تیر

عنوان انگلیسی مقاله:
 Test of a Steel Plate Shear Wall with Partially Encased Composite Columns and RBS Frame Connections
Conclusions

The behavior of PEC columns and the effect of the RBS connection on the behavior of the steel plate shear wall system were investigated in this experimental study. The main differences between this specimen and the benchmark specimen were the detailing of the columns, such as the use of reduced link spacings in critical regions and longitudinal rebars at the base, and use of RBS connections between the first-story beam and the columns. The reduced link spacing \( (s/b = 0.2) \) and the longitudinal rebars at the base of the columns, where plastic hinges were expected, improved the ductile performance of the column section significantly. The eventual formation of the plastic hinge at the top of the first-story column, resulting in a soft-story mechanism, was postponed because of the improvement of the column ductility at the base. The use of RBS frame connections improved the deformation mode of the system from flexural to shear by forcing the formation of plastic hinges at the ends of the first-story beam and reducing the rotational demands in the columns at the frame joints.