A New Roller Bearing Isolation System for Highway Bridges

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ABSTRACT
One of the major challenges in seismic isolation design for highway bridges is to maintain the base shear at an adequately low level with acceptable bearing displacement. This paper describes a new isolation system made of steel cylinders rolling on sloped surfaces. This system has two distinct features: 1) the acceleration of the superstructure is maintained at a relatively low and constant level; and 2) the bearing displacement is kept to a level that is smaller than currently available in today's isolation bearings.

KEY WORDS
Seismic isolation, low and constant base shear, reduced bearing displacement