

THE NEW GENERATION OF SEISMIC ACTIVE AND SEMI-ACTIVE PROTECTION SYSTEMS

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Seismic protection systems may be classified in three main categories: passive, active and semi-active. The goal of this paper is to provide a global and current vision of the active and semi-active seismic protection systems. Basic concepts are presented, several devices operations are briefly described and also the main advantages and disadvantages.

Keywords: seismic protection, active, semi-active, damping, variable stiffness, control of vibrations

Introduction

The traditional structural design methodology states that a structure should have enough resistance and ductility to dissipate the seismic energy, allowing the occurrence of important damages. During the second half of the last century the economical impact of large earthquakes, and the huge time consuming activities necessary to rehabilitate the affected areas, induced the study and development