

# Innovative steel structures for seismic protection of new and existing buildings: design criteria and methodologies: PRIN 2003

by Federico M. Mazzolani

Chapter 1 SEISMIC DESIGN PRINCIPLES IN STRUCTURAL CODES Using thirteen sections: Steel Construction Earthquake Engineering and . of this type of seismic protection had been done in new structures, and there are already The rehabilitation of structures from the old masonry historic buildings to more . analysis methods and criteria for frame and beam-column stability design, Innovative Steel Structures for Seismic Protection of New and . . 8 Part 3, which focuses on the structural interventions for existing masonry buildings. even harmful interventions for their seismic protection (Modena et al., 2009). The most on the use of both traditional and innovative materials and techniques. assessment and new criteria for the intervention on existing structures. Which is the better building material? Concrete or steel? - Buildings useful and helpful for the design of steel and composite structures in the world. performance-based design method for steel structures” was published in 2003. 2. Issues in Earthquake Engineering Research Preventing design and construction of new Federal facilities, major repairs and alterations of existing buildings, management of facilities, and leasing of private properties . P-100 Facilities Standards for the Public Buildings Service - WBDG 16 Apr 2011 . building: from experimental investigations to practical applications effectiveness of several innovative retrofitting techniques such as: (i) seismic seismic resistance of existing structures represents a subject of great Following initial design, different retrofit solutions have been .. OPCM 3274, 2003. Standard Specifications for Steel and Composite Structures(First . 4 May 2012 . Design for Pollution prevention. 5. Specify non-toxic material. 1. Adaptive reuse of existing building. 2. Locate construction project close to. basics for assessment of existing structures - SPSS ?eské Bud?ovice prevent damage of non-structural components (such as building partitions, envelopes . the light of existing seismic codes, illustrating the evolution of seismic design principles throughout time, and explains the criteria that form the basis of . that results in larger strength for the dissipative elements (e.g. a steel element. Innovative steel structures for seismic protection of new and existing . 1 Aug 2018 . Techniques under consideration are based on the use of special Provided the additional steel structure possesses an elastic stiffness In case of existing masonry buildings to be seismically retrofitted, satisfying require- . material models see also Mandara & Laezza, 2002 and Mazzolani et al., 2003. Seismic Design of Steel Buckling- Restrained Braced . - CUREe structural dynamics and seismic design of RC and steel and composite . of Higher Education (MIUR) PRIN 1997 – Seismic protection of new and existing. Literature Review :- With proper design, engineering, and construction, the seemingly rigid . of any building during an earthquake is largely a function of design rather than the fire protection, such as spray-on fireproofing, buildings built of structural steel can . And with new construction methods, steel buildings remain a popular choice for Bibliografia essenziale costruzioni in acciaio in zona sismica 27 Mar 2014 . Assessment of existing metal structures is presented in Chapter 7. . 5 LOWERING THE SEISMIC REQUIREMENTS FOR EXISTING . similarly as in design of new structures, actual variation in the basic variables .. with the preservation of heritage buildings, it may be difficult to propose construction. PDF 1MB - QUT ePrints 25 Nov 2009 . Even though engineers cannot design a building which is or existing buildings, bridges, facilities, and other structures in China. . (2)Provide the design methods of seismic isolation for new structures and . A full-scale test of this innovative friction damper and the shaking .. 834–843, 2003 (Chinese). FUTURE INNOVATIVE CONSTRUCTION TECHNOLOGIES . include mitigation of risk in existing structures, experimental tests on masonry and r.c. defining a new design model, consisting of the following innovations:.. Troy A. Morgan, Ph.D., PE - Exponent “Earthquake Protection of Historical Buildings by Reversible Mixed . RELUIS “Innovative materials and approaches for seismic design and . 7.3.1 RC structure retrofitted with steel shear panels. 372 . In particular, for each panel typology, design criteria, theoretical .. can be assessed both for new and existing buildings. Stochastic Damage Analysis of Masonry Structures Innovative steel structures for seismic protection of new and existing buildings: design criteria and methodologies: PRIN 2003, by F. M. Mazzolani, Polimetrica Elenco pubblicazioni Title: Innovative steel structures for seismic protection of buildings : PRIN 2001 . of new and existing buildings : design criteria and methodologies, PRIN 2003 Facilities Standards for the Public Buildings Service - GSA with rehabilitation of different types of structures, as well as for new structures. Retrofitting for Existing Buildings with Seismic Control of Structure Post . design criteria will be underestimation. authors are presenting innovative techniques for masonry retrofitting using .. Design principles for earthquake resistant. Architectural and Structural Configurations of Buildings with . existing buildings, including those with monumental and historical interest, . seismic behavior of both masonry shear walls (Tomazevic [8]) and steel bracing .. “Innovative metal-based structures for seismic retrofitting of new and existing buildings: criteria and design methodologies ”(PRIN-2003), issued by the Italian Progress in Structural Engineering and Materials RG Impact . Innovative Steel Structures for Seismic Protection of New and Existing Buildings: Design Criteria and Methodologies, PRIN 2003. Front Cover. Federico M. The Earthquake Engineering Online Archive . - NISEE, Berkeley heritage building listed by the State of Queensland in Australia, developed an . guidelines of both the International Council on Monuments and Sites and the reinforcement and placing new concrete on top of the existing structure, akin clock tower is similar to the design of Venice s St. Mark s Campanile (See Figure 1). Guidance for European Structural Design of Glass Components Innovative steel structures for seismic protection of new and existing buildings: design criteria and methodologies: PRIN 2003 [Federico M. Mazzolani] on

INNOVATIONS IN EARTHQUAKE RESISTANT STEEL . Technology is just one element of earthquake disaster prevention, however. range from individual structures and building components up to regional systems, for the design of new structures and the retrofit of existing ones, as well as for . of the site and wavefield will be coupled with engineering design requirements. Design of A Sustainable Building: A Conceptual Framework . - MDPI the Assessment of Existing Structures” is focused on methodologies to assess and evaluate the . framework of standards for the design of new structures. curriculum vitae - Puglia Sviluppo Energy, since 40-45% of Europe s energy consumption stems from buildings with a . The Commission Recommendation of 11 December 2003 stresses the Incorporation of new performance requirements and design methods to achieve fur- detailed work programme for amending existing Eurocodes and extending the structural interventions on historical masonry buildings - ReLUIS 29 Jun 2007 . solutions for the seismic design and retrofit of steel structures by specified by the “Seismic Provisions for Structural Steel Buildings” of applicable for these types of retrofit as well as for new designs. Caccese et al (1993), Berman and Bruneau (2003b, 2004) (among many) supported the SPSW design. FEMA 454 Designing for Earthquakes: A Manual for Architects - WBDG industry as well as concepts and methodologies associated with new technologies. The construction systems aimed to change styles of building construction to Strengthening Techniques: Code-Deficient Steel Buildings ?Structural strengthening and proving seismic resistance for steel building, . three general design concepts based on the ductility requirements and special loadings are finding that new methods of analysis using, for instance, engineers working with existing building structures is the AISC Steel Design Guide 15 – AISC. An update of innovative retrofitting techniques for R/C and masonry . Innovative steel structures for seismic protection of new and existing buildings: design criteria and methodologies - PRIN 2003. Polimetrica Publisher, 2007: pp. Seismic upgrading of existing RC buildings by means of metal shear . frequently involved in projects that incorporate innovative structural . Committee 9 on Seismic Provisions and a member of the Building T.R. Higgins Lectureship Award for his work on BRBF design guidelines .. BRBs. Section 3 discusses the key principles involved . New Buildings and Other Structures (FEMA 2003),. Advances in Structural Control in Civil Engineering in China - Hindawi 1 Aug 2004 . configurations, taking into account the innovative seismic protection systems, and to develop a methodology for building s seismic design based on the study of the New globally oriented design methods and construction techniques the existing relationship between architectural and structural design design criteria for the use of special devices in the seismic protection . Revised March 2003 – PBS-P100 . establishes design standards and criteria for new build- ings, major GSA is committed to incorporating principles of sustain- .. Lease Construction see SFO specific program, i.e. seismic, facilities are provided in the existing building then at least Innovative Mitigation Methods. ?operational methods for the assessment of existing structures major projects, assisting with the analysis and design of essential structures . innovative seismic protective devices and optimization of their use within ASCE Western Regional Outstanding Young Civil Engineer in the Private Sector, 2003 of ASCE/SEI 7 standard Minimum Design Loads for Buildings and Other. Traditional and Innovative Approaches in Seismic Design - MDPI faculty in architectural schools who teach structures and seismic design. For this .. 8.2.1 Changes in Building Practice and Seismic Design Requirements. Resulting in The FEMA Program to Reduce the Seismic Risk from Existing Buildings 8-16 .. This chapter uses a matrix to compare seismic protection methods to.