



Enhancing Seismic Resilience of Telecommunication Towers: Impact of Viscous Damper Integration

ISBN

978-81-981367-3-2

E-ISBN

978-81-981367-9-4

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 **DeepScience**

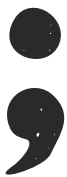
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Published, marketed, and distributed by:

Deep Science Publishing
USA | UK | India | Turkey
Reg. No. MH-33-0523625
www.deepscienceresearch.com
editor@deepscienceresearch.com
WhatsApp: +91 7977171947

ISBN: 978-81-981367-3-2

E-ISBN: 978-81-981367-9-4

<https://doi.org/10.70593/978-81-981367-9-4>

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Citation: Meti, A., & Malipatil, S. (2024). *Enhancing Seismic Resilience of Telecommunication Towers: Impact of Viscous Damper Integration*. Deep Science Publishing. <https://doi.org/10.70593/978-81-981367-9-4>

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Preface

This book aims to address the vital issue of seismic resilience in telecommunication infrastructure by examining the effectiveness of viscous dampers as a retrofit solution. Viscous dampers have emerged as a practical and efficient method for mitigating dynamic forces, offering significant potential to enhance the performance of tall, flexible structures subjected to seismic excitation. Through comprehensive analysis, simulation, and case studies, this work evaluates the integration of viscous dampers in telecommunication towers, highlighting their impact on minimizing vibrations, enhancing structural stability, and extending the lifespan of these essential installations.

The chapters in this book are organized to provide a holistic understanding of seismic challenges faced by telecommunication towers and how viscous damper technology can be harnessed to overcome these challenges. The initial chapters introduce the fundamental principles of seismic engineering, outlining the specific vulnerabilities of telecommunication towers. Subsequent chapters delve into the mechanics of viscous dampers, examining their design, installation, and performance under various seismic scenarios. A synthesis of research findings, real-world applications, and best practices for incorporating dampers into tower structures offers practitioners valuable insights for implementing these solutions effectively.

This work is intended for engineers, researchers, and professionals in structural and civil engineering, particularly those specializing in seismic resilience and telecommunication infrastructure. It also serves as a resource for students and academics seeking to explore innovative engineering solutions to protect essential infrastructure from natural hazards. I extend my gratitude to all researchers and professionals whose invaluable contributions and insights have helped shape this book. I hope it will serve as a significant resource for advancing knowledge and practices in enhancing the seismic resilience of telecommunication towers, fostering a safer and more resilient global communication network.

Ashok Meti
Swapnil Malipatil

Contents

Chapter-1: Seismic performance enhancement of telecommunication towers without viscous damper.....1

Introduction.....	1
Historical development of steel.....	2
Literature review.....	4
Methodology for seismic evaluation.....	7
Results and discussions.....	8
Conclusions.....	14

Chapter-2: Enhancing seismic resilience of telecommunication tower: By linear static approach for without viscous damper.....17

Introduction.....	18
Material property and modelling.....	19
Results and discussion.....	24
Conclusion.....	25

Chapter-3: Seismic resilience enhancement of telecommunication tower: A linear static analysis with viscous damper.....28

Introduction.....	29
Objectives of the study.....	33
Material property and modelling.....	33
Results and discussion.....	38
Conclusion.....	46

Chapter-4: Enhancing seismic resilience of telecommunication tower using response spectrum analysis: A study with and without viscous dampers.....50

Introduction.....	51
Viscous damper.....	53
Material property and modelling.....	53
Response spectrum analysis.....	56

Results and discussion.....	56
Conclusion.....	59

Chapter-5: Evaluating the impact of seismic resilience of telecommunication tower by using time history analysis for with and without viscous damper.....62

Introduction.....	63
Viscous dampers.....	64
Material property and modelling.....	65
Time history analysis.....	66
Results and discussion.....	67
Conclusion.....	69