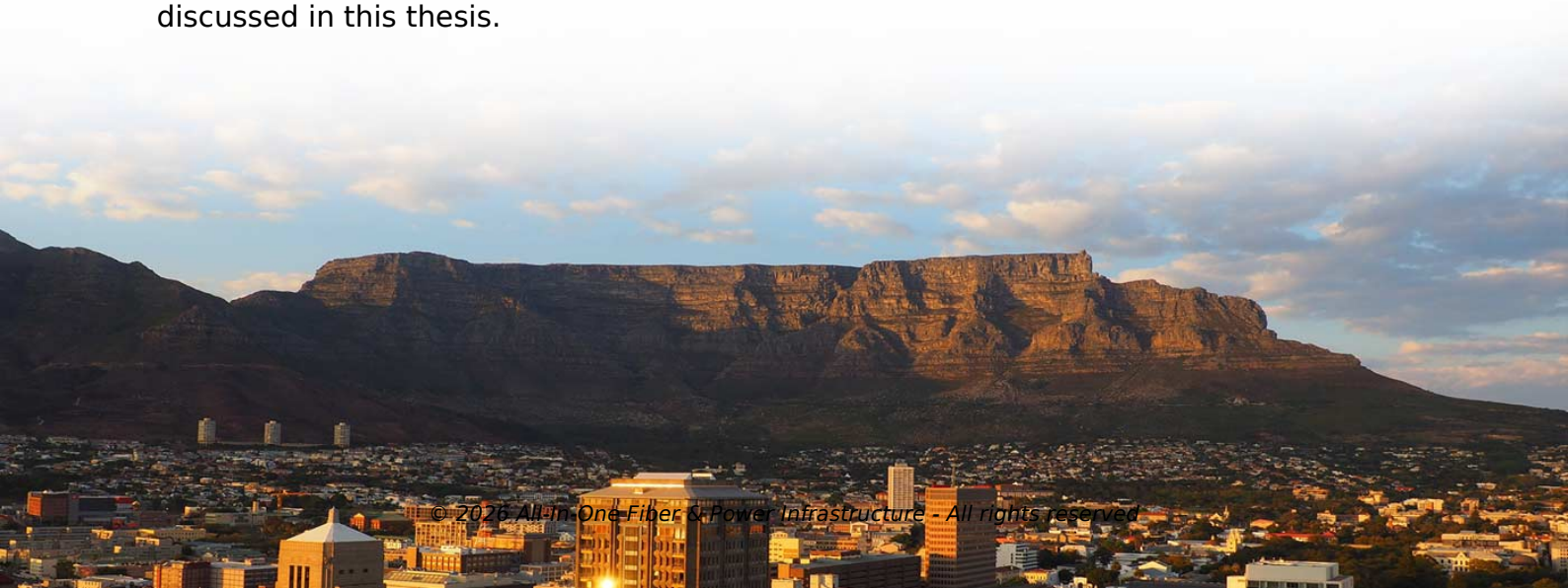
Thin-walled hollow piers for cable trays

Overview

For some cable-stayed bridges with ultra-high piers in mountainous regions, the main pier type is single-leg hollow thin-walled piers. To study the nonlinear behavior of the thin-walled hollow bridge piers, two rectangular pier specimens have been tested under quasi-static cyclic lateral displacement and different axial loads. For easier. The utility model belongs to the technical field of bridge construction, and particularly relates to a thin-wall hollow pier capping concrete support cover plate which comprises a cover plate body, wherein the bottom end of the cover plate body is fixedly connected with a connecting ring, two. Due to the topographical constraints in mountainous areas, hollow thin-walled high piers are typically employed for highway bridges. To enhance the stability of these high piers, both transverse and vertical diaphragms are usu-ally installed, which, however, increases construction difficulty and. To enhance the understanding of the seismic behavior of reinforced concrete (RC) hollow piers, a sensitivity analysis of design parameters is conducted. A novel analytical model named the Axial–Flexure–Shear-Interaction-Membrane-Beam-Truss-Element-Model (AFSI-MBTEM) is proposed to account for the. The hysteresis behavior, skeleton curve, displacement ductility energy-dissipating capacity of the thin-walled hollow pier under the combined action of the bending, pressing, and shearing were discussed in this thesis.



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Thin-walled high piers are better suited to the complex topography, geological features, navigation, and route requirements of mountainous areas, and thus are widely used in practical engineering . For

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For the stability problem of hollow thin-walled high piers, the numerical simulation of the model with or without diaphragms is carried out to

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Design parameters of thin-walled hollow pier model

The existing formulas of effective stiffness were summarized, and their reasonability were discussed based on the experimental data of 35 rectangular hollow and 44

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To address this issue, this study investigates the impact of transverse and vertical diaphragm placement on the stability of hollow thin-walled high piers. Using Midas Civil and Midas FEA finite element

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Experimental and numerical study on thin-walled hollow bridge piers

To study the nonlinear behavior of the thin-walled hollow bridge piers, two rectangular pier specimens have been tested under quasi-static cyclic lateral displacement and different axial loads.

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This study provides reliable experimental data and rational numerical model for thin-walled UHPC hollow piers, and can provide valuable insights for the application of UHPC hollow piers in

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Design Recommendations for Thin-Walled Box Piers and Pylons

An overview of available studies on thin-walled box piers and pylons is presented, including an experimental and analytical study recently completed at the University of Texas at Austin. The

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Website: https://www.regen-power.co.za
Email: info@regen-power.co.za
Phone: +49 176 845 2036
Address: Taunusanlage 15, 60325 Frankfurt am Main, Germany

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