

Article Overview

The ARIMAO submarine cable, spanning approximately 2,470-2,500 km between Cuba and Martinique, was laid to enhance Cuba's international connectivity, with careful attention to cable tension, damping, and vibration characteristics.

Cable Construction and Deployment

The ARIMAO cable is a fiber optic submarine cable designed to improve internet and broadband connectivity between Cuba and Martinique. Its deployment began on December 8, 2022, from the Tricontinental Port in Cienfuegos, Cuba, and the cable reached Martinique by January 10, 2023 . The cable is approximately 2,470-2,500 km long and was installed by the French company Orange S.A. in cooperation with Cuba's ETECSA S.A. . The project includes both the submarine portion and a terrestrial integration at landing points, which involves connecting equipment and systems to ensure operational functionality . The cable-laying process used specialized ships, such as the Pierre de Fermat, to carefully lay the cable along the seabed, minimizing stress and avoiding damage. The installation process also considers seabed topography, water depth, and environmental conditions to ensure long-term reliability .

Vibration and Damping Considerations

Submarine cables, including ARIMAO, are subject to vibrations caused by ocean currents, waves, and mechanical tension. Proper evaluation of these vibrations is essential to maintain cable integrity and signal performance. Techniques for cable vibration measurement include:

- o 3-dimensional accelerometers placed on the cable to record movements.
- o Determination of eigenfrequencies and eigenmodes, which are unique to each cable depending on its tension, dimensions, anchorage type, and supports.
- o Calculation of damping values by analyzing the decay of vibration amplitudes, which helps engineers assess how quickly oscillations diminish and prevent fatigue or damage . These measurements allow engineers to calculate tensioning forces accurately and ensure that the cable can withstand environmental stresses over its operational life. Each cable segment is individually evaluated to optimize safety and performance .

Current Status and Connectivity Impact

After the physical laying of the ARIMAO cable, connection tests and integration of terrestrial systems are ongoing to bring the cable fully online . Once operational, the cable is expected to diversify and increase Cuba's international connectivity, complementing existing cables like ALBA-1, and providing more reliable internet access for the island . In summary, the ARIMAO cable project combines advanced submarine cable construction techniques with rigorous vibration and damping evaluation to ensure a robust, long-term solution

for Cuba's international telecommunications needs.

The grow-ing construction of cable-stayed bridges has also triggered researchers" and designers" attention to the problem of cable

Two years after the Arima cable"s debut, Cubans are still waiting for meaningful improvements in their digital lives. While the

In an effort to model the vibration response of cabled structures, the distributed transfer function method is developed

TeleGeography"s comprehensive and regularly updated interactive map of the world"s major submarine cable systems

View Eland Cables" flexible heavy-duty H07RN-F rubber cable Cu/EPR/PCP manufactured in accordance with BS EN 50525.

ALBA-1 is a submarine communications cable for telecommunications between Cuba and Venezuela. The fiber cable was laid by the

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Cable Construction Introduction This article gives a brief exposition on the construction of typical low voltage, medium / high voltage

CABLES FOR WALK AROUND VIBRATION DATA COLLECTION WHAT TO LOOK FOR Connector compatible with sensor

The modal properties and vibrational characteristics of cable vibrations were first obtained through finite element

Incidences of large-amplitude vibrations of stay cables have been reported worldwide on a number of cable-stayed

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Cuba has one submarine cable -- ALBA-1 to Venezuela. Our traceroute from Georgia shows traffic reaching

Cuba via

Alcatel-Lucent, through its Chinese subsidiary Alcatel-Lucent Shanghai Bell, was awarded the contract to provide turn-key solution

(KPL/Prensa Latina) ETECSA Executive President Tania Velázquez said on Friday that the activation of the Arimao

This week marks a decade since the ALBA-1 submarine cable began carrying traffic between Cuba and the global

Web: <https://www.kremgroup.co.za>

