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Vibration of underground optical cable

Overview

To solve the problem of vibration area localization of underground power optical cables in multiple laying scenarios, we propose PGSD-YOLO based on YOLOv11n, which locates the vibration areas while gaining the laying scenario of the vibration areas. This technology is particularly useful when the precise installation path of the cable is unknown or differs from the original plans. The K-DAS system operates by. Distributed Acoustic Sensing (DAS) systems detect strain changes and vibrations along optical fibers.

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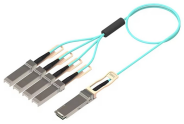
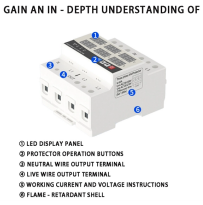
	Distributed Acoustic Sensing (DAS) systems detect strain changes and vibrations along optical fibers. This highly sensitive technology is used for monitoring critical infrastructure such as power cables, ...
	In this paper, the optical fiber vibration sensor based on Mach-Zehnder Interference (MZI) principle is designed and researched, which can improve the ...
	Researchers in China have suggested analyzing the vibrations of existing fiber cables buried underground alongside railway tracks to detect problems.
	The K-DAS system operates by sending light pulses through a single fiber within the cable and applying acoustic vibrations to the ground near the suspected installation site.
	First, with real multiple laying scenarios of buried underground and manholes, using an underground power optical cable as distributed optical fiber vibration sensing, a -OTDR system is built to collect ...

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Traffic vibration monitoring based on distributed acoustic sensing (DAS), is an attractive candidate for using optical cables deployed for FTTH services to obtain valuable data, but the installation condition ...

When falling rocks strike the optical cable placed at the bottom of the pipeline, the stone''s instantaneous kinetic energy is transferred to the cable, causing it to be impacted and generate self ...

Abstract: As the most common member of the underground pipeline, optical cable has already spread throughout the urban region. By combining the distributed acoustic sensing (DAS) ...

To solve the above problems, we propose a method for vibration area localization and event recognition of the underground power optical cable based on PGSD-YOLO and 1DCNN ...

In this paper, the optical fiber vibration sensor based on Mach-Zehnder Interference (MZI) principle is designed and researched, which can improve the ability to recognize the physical...

In this article, we evaluate the effectiveness of fiber optic vibration sensing method on underground fiber cable identification scenario, and propose an underground fiber cable identification method based on ...

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