SOLAR PRO.

Full set of design solutions for oil leakage at the top of energy storage device

Can Olga software detect simultaneous leaks in oil pipelines?
No previous studieshave explored the detection and localization of simultaneous leaks in oil pipelines employing this particular approach. The conditions in the assessment were closely compared to real scenarios using OLGA software.

How to detect leaks in high-pressure oil pipelines?
A general multiple leak detection and localization method for high-pressure oil pipelines has been proposed. Fisher method has been implemented as a data fusion method in sensor array applications to improve the estimation accuracy. A realistic oil pipeline has been simulated by OLGA and PVTSIM.

How to estimate multiple leaks in long-distance oil pipelines?
In this study,multiple leaks in long-distance oil pipelines are estimated using a two-stage decision-making scheme. Arrays of sensors are proposed for improving the reliability and accuracy of simultaneous leak estimations,replacing the traditional reliance on single sensors along pipelines.

How can a two-stage decision-making approach address leak detection and gradient identification?
A two-stage decision-making approach is proposed to address accurate leak detection and real-time gradient identification. A general multiple leak detection and localization method for high-pressure oil pipelines has been proposed.

How to detect and pinpoint simultaneous leaks in oil pipelines?
To precisely detect and pinpoint simultaneous leaks,we adopt a combined strategy involving data fusion and real-time identification of friction function. No previous studies have explored the detection and localization of simultaneous leaks in oil pipelines employing this particular approach.

What is a multiple leakages monitoring approach?
The assessment of the multiple leakages monitoring approach involves evaluating different scenarios involving simultaneous leaks,each accounting for 30 % of the pipeline's total flow magnitude. These scenarios encompass two simultaneous leaks occurring at distinct pipeline segments--the beginning,middle,and end of the oil pipeline.

This article analyzes the causes of oil leakage in existing current transformer oil sampling methods, and designs an intelligent oil sampling device for rotary push current transformers.

Computational fluid dynamics (CFD) has been used by many scholars to study oil leakage and diffusion because of its advantages of efficient computing power and powerful ...

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Oil and gas pipelines are very important for fuel transportation, however leakages in them may lead to life and property losses due to the release of the energy they contain.

The real-scenario substation equipment oil leakage detection dataset consists of six common equipment oil leakages in the substation, which include oil leakage from tanks, oil leakage ...

Electricity is an indispensable power energy in human life, ... but the model design is relatively simple, ... Picture of oil leakage data set for some transformers. 3.2. Experimental ...

In this paper, we present a scalable design and simulation of a water pipeline leakage monitoring system using Radio Frequency IDentification (RFID) and WSN technology. The proposed ...

According to the statistics of the CIA, by the year 2017, the total length of the global oil and gas pipelines is about 355 × 10 4 km, of which the length of the gas pipeline is about ...

The protection of coastal areas against oil pollution is often addressed with the use of floating booms. These bodies are subject to an empirical design always based on physical models.

Every legacy well that penetrates the caprock of the targeted storage formation at a GCS site can be considered a potential pathway until the driving force for CO 2 and brine ...

A failure of a subsea crude oil API 5L X52 welded steel pipeline with an 18-inch outside diameter has caused oil leakage and this event was reported after 20 years in service.

The leakage point was set at the outlet of the high-pressure hydrogen storage tank located at the rear of the passenger compartment. The simulation results show that installing a ...

Hydrogen as a future low-carbon energy carrier is currently gaining momentum on a global scale. There is an increasing recognition of the versatile role hydrogen can play as a clean energy solution for the decarbonization of ...

The problem of incessant leakages in oil pipeline from intentional or natural accident with its untold results of pollution, loss of lives from fire outbreak, and reduction in production output, spurred the burning desire to proffer a novel ...

Oil pipeline leakage detection has been an important and ongoing problem in industrial development throughout the ages. Data based on SAR-captured images has been ...

Event Tree for the crude oil leakage from the storage tank. HAZOP (Parameter: the flow of crude oil to or

from the storage tank) Figures - uploaded by Haidar Ibrahim

With the recent abrupt fluctuations in oil pricing and the need of complying with environmental and social requirements, nowadays it is an urgent call for the oil and gas ...

The most essential issue associated with the underground oil and gas storage is the prevention of gas and oil from leaking out of the storage caverns. The leakage will create a ...

In recent years, battery technologies have advanced significantly to meet the increasing demand for portable electronics, electric vehicles, and battery energy storage ...

This paper describes a system-level risk assessment for the Shenhua CO 2 storage site, China, using the National Risk Assessment Partnership Integrated Assessment Model for ...

Due to the low permeability of cement (usually less than 1 × 10-15 m 2), a wellbore cement sheath that remains intact can be considered to have sufficient tightness to ensure the ...

Evaluating sealing capacity against the air leakage from unlined underground caverns for compressed air energy storage (CAES), a large-scale energy storage technology, ...

Developing nonlinear equations based on momentum and continuity principles is proposed as a comprehensive solution for estimating multiple leak locations in oil pipelines. In ...

The focal point of the present study is to establish a new combined methodology for leakage detection, and based on the data acquired from an intelligent wireless system for leakage ...

The device which comprises four (4) ultrasonic sensors which were designed using a patent pending floating crystal design, is placed inside a corrosion resistant IP66-rated ...

This paper proposes an oil leakage detection technology based on the fusion of simple linear iterative clustering (SLIC) and Transformer sub-station equipment, which is used ...

Hydropower is a clean and renewable energy, fundamental to the attainment of a sustainable society. Despite its efficacy and success, there is a need to address the hydroelectric stations" oil throwing and mist leakage, ...

Reducing emissions from Deforestation and Forest Degradation (REDD+) is another popular option to mitigate carbon emissions given that deforestation in tropical countries ...

They conducted full scale laboratory tests of pipe-soil interaction, including both monotonic and cyclic lateral

load tests, on five offshore soil conditions: loose silty fine sand, ...

It is extremely difficult to clean up accidental oil spills in water since conventional oil sorbents absorb much more water in addition to the oil. Alternatively, cleanup techniques might lead to ...

This paper studies the design of leak detection design for oil pipeline based on image recognition technology. The basic steps of the process are as follows: Fi

Depleted oil and gas reservoirs have the potential to store an estimated 675 to 900 gigatones of carbon dioxide (CO 2) ch reservoirs represent a significant resource for long ...

detected early and corrected. The leakage rate scale is used for this important task [3]. Several papers focus on address the issue of leakage whether in water or oil or gas [4]-[8]. In [9], a ...

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