

Intelligent Spectrometer from Iran

Rear of the optical fiber distribution box



AI Overview

Iran produces a range of intelligent spectrometers, including portable optical, Raman, and automated online analyzers suitable for research, industrial, and environmental applications. Overview of Iranian Spectrometer Technology Iranian knowledge-based companies have developed advanced optical spectrometers with various wavelength ranges, including portable and desktop models. These devices are used to measure light absorption, providing insights into molecular and structural properties of samples, and are widely applied in food, pharmaceuticals, water treatment, and oil industries (ANA News).

Portable Optical Spectrometers

ONYX Portable Spectrophotometer: Offers fast scanning for water, sewage, and environmental samples with a wavelength range of 380–800 nm. It features a rechargeable battery, portable workspace, and an attached display for immediate feedback. It can measure key parameters such as COD, BOD, Nitrite, and Nitrate, making it suitable for quality control tasks (ANA News).

Phystec Miniature Optical Spectrometer: A compact device compatible with optical fibers for UV, Vis, and NIR measurements (190–1100 nm). It is customizable for specific industrial or research applications, including water analysis and color inspection (Phystec).

Raman Spectrometers

si-Raman® Plus: A portable Raman spectrometer with high quantum efficiency CCD detector, wide spectral coverage ($65\text{--}4200\text{ cm}^{-1}$), and high resolution. It supports fiber optic probes, cuvette holders, video microscopes, and multivariate analysis software, enabling qualitative and quantitative Raman analysis in research and field applications (Iran Expert Tools).

Automated and Online Analyzers

Online COD Monitoring Analyzer: Designed for real-time measurement of chemical oxygen demand (COD) in water and wastewater. This system allows continuous monitoring and is suitable for industrial and environmental applications (ANA News).

Full-Spectrum Spark Direct Reading Spectrometer: A professional-grade spectrometer produced in Iran for direct elemental analysis, com...

Article Content

Metasurface spectrometers beyond resolution

Conventional spectrometer designs necessitate a compromise between their resolution and sensitivity, especially as device and detector

Mass Spectrometer Cases Illustrate Diversity of Iranian

As Iran ramps up uranium enrichment, authorities in multiple countries have uncovered efforts by Iranian agents to procure mass

Based on the Feedforward Inputs Obtained by the

A moving mirror control system of the Fourier transform spectrometer (FTS) based on the feedforward inputs obtained by the intelligent algorithm is

Imaging-based intelligent spectrometer on a plasmonic rainbo

Compact, lightweight, and on-chip spectrometers are required to develop portable and handheld sensing and analysis applications. However, the performance of these miniaturized systems is usually much

[2502.09897] Artificial Intelligence in Spectroscopy: Advancing ...

The rapid advent of machine learning (ML) and artificial intelligence (AI) has catalyzed major transformations in chemistry, yet the application of these methods to spectroscopic and

Integrating artificial intelligence with miniature mass spectrometry ...

Researches on miniature intelligent mass spectrometers are divided into two categories, one for intelligent sample identification and the other for enhancing instrument performance.

Iran's Spectrometers and Spectrophotometers Market Report 2026

This report provides a comprehensive view of the spectrometers and spectrophotometers industry in Iran, tracking demand, supply, and trade flows across the national value chain.

NIR spectrofluorometer

The compact spectrometer is the main component of the system and is preconfigured with high throughput optics and a larger entrance slit, low noise circuit design, and an ultra-sensitive detector

nir spectrometers Companies and Suppliers in Iran | ...

InfraLUM - Model FT-12 - FT-NIR Spectrometer NIR analyzers have become an indispensable tool for the monitoring of production process technology and quality control of food products.

Iran Spectrometer Market (2025-2031) | Forecast & Share

Our analysts track relevant industries related to the Iran Spectrometer Market, allowing our clients with actionable intelligence and reliable forecasts tailored to emerging regional needs.

Iranian Illicit Procurement Scheme to Acquire Controlled Spectrometry ...

Alexander J. exported the two spectrometers on June 30, 2020, from an unspecified place in the EU to the embargoed Iranian entity based in Iran. It is unclear from the indictment and

Iran Spectrophotometer Market (2025-2031) | Companies & Analysis

Our analysts track relevant industries related to the Iran Spectrophotometer Market, allowing our clients with actionable intelligence and reliable forecasts tailored to emerging regional needs.

NooraSense – Intelligent Material Analysis

Spectrometer-on-a-chip device for food & agricultural material analysis. Portable, AI-powered SWIR/NIR spectroscopy for quality assessment and fraud detection.

Iran Analytical Instruments Market (2026-2032) | Trends, Outlook

Iran Analytical Instruments Market reflects evolving supply chain optimization and fundamental production dynamics in response to regional demands.

Imaging-based intelligent spectrometer on a plasmonic rainbow chip

Here we report an intelligent on-chip spectrometer by integrating an on-chip rainbow trapping phenomenon with a compact optical imaging system. Our results show that the plasmonic

A I SPECTROSCOPY: ADVANCING C PREDICTION TO

a crucial intersection between machine learning and spectroscopy. In this work, we provide a comprehensive overview of SpectraML and present a unified roadmap that traces methodologies

On-chip intelligent terahertz sensing platform for real-time ...

Abstract This study presents a groundbreaking on-chip intelligent terahertz (THz) sensing platform for real-time biochemical identification, integrating THz time-domain spectroscopy (THz

Iranian Scientists Produce Fully Automatic

Kargar had earlier, in September, said that the high-quality spectrometers produced by an Iranian nanotechnology company had found

Early Detection of Bacterial Wilt in Tomato with Portable

Compared with other spectrometers, HS-VN1000B Portable Intelligent Spectrometer has significant advantages in crop disease detection,

Wangning Cai's research works

Wangning Cai's 3 research works with 158 reads, including: High-performance, on-chip speckle spectrometer using two-dimensional silicon photonic disordered microring lattice

Iranian Knowledge-Based Company Produces Optical

TEHRAN (ANA)- Iranian researchers at a knowledge-based company succeeded in developing advanced spectroscopic equipment by

Intelligent spectropolarimetry | Light: Science & Applications

Light: Science & Applications - Intelligent spectropolarimetry Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing ...

Development of Concurrent Artificially-Intelligent Spectrometry and ...

We present the design and performance of a Concurrent Artificially-intelligent Spectrometry and Adaptive Lidar System (CASALS) for 3D imaging from Space. With a single fast wavelength tuning

NASA TechPort

The technology, the Concurrent Artificially-intelligent Spectrometry and Adaptive Lidar System (CASALS), will provide high-priority measurements which support scientific studies and

Intelligent Fourier Infrared Spectrometer – juanjuanlab

Intelligent Fourier Transform Infrared (FTIR) Spectrometer is a powerful analytical instrument that identifies the molecular composition of a sample by measuring its absorption of infrared light.

Early Detection of Bacterial Wilt in Tomato with Portable

In this study, tomato BW in the early stage was identified using HS-VN1000B Portable Intelligent Spectrometer. The spectrometer was equipped

New Publication: Imaging-based intelligent

Compact, lightweight, and on-chip spectrometers are required to develop portable and handheld sensing and analysis applications. However, the

IRIS Technology | Real-time Process and Quality

IRIS Technology Solutions manufactures real-time solutions with NIR and Raman spectroscopy, Hyperspectral Imaging and Machine Vision for Industry.

Contact Us

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