

South Korea Environmental Monitoring Spectrometer



Overview

In order to enhance the capability of monitoring and predicting air quality and climate change over East and Southeast Asia, the National Institute of Environmental Research (NIER) under the Ministry of Climate, Energy and Environment, Korea developed the Geostationary Environment Monitoring Spectrometer (GEMS). In order to enhance the capability of monitoring and predicting air quality and climate change over East and Southeast Asia, the National Institute of Environmental Research (NIER) under the Ministry of Climate, Energy and Environment, Korea developed the Geostationary Environment Monitoring Spectrometer (GEMS). In order to enhance the capability of monitoring and predicting air quality and climate change over East and Southeast Asia, the National Institute of Environmental Research (NIER) under the Ministry of Climate, Energy and Environment, Korea developed the Geostationary Environment Monitoring Spectrometer (GEMS). The Geostationary Environment Monitoring Spectrometer (GEMS), launched by the Republic of Korea in February 2020, enables the hourly monitoring of air pollution levels for almost 20 countries in Asia. Specifically, countries covered by the project include Cambodia, the Lao People's Democratic Republic, and the Lao People's Democratic Republic. The Geostationary Environment Monitoring Spectrometer (GEMS) is the first geostationary earth orbit (GEO) environmental instrument, onboard the Geostationary Korea Multi-Purpose Satellite-2B (GEO-KOMPSAT-2B) launched on 19 February 2020, and is measuring reflected radiance from the earth's surface. Our GEMS instrument, which launched in 2020, is helping to improve early warnings for dangerous concentrations of chemicals in our atmosphere across the Asia-Pacific region. A geostationary scanning ultraviolet-visible spectrometer, GEMS is monitoring trans-boundary nitrogen dioxide, sulfur dioxide, and aerosols. In 2009, National Institute of Environmental Research (NIER) of the Ministry of Environment, Korea has initiated the Geostationary Environmental Monitoring Spectrometer (GEMS) mission onboard...

Article Content

Jun 07, 2026

Mission Status of a Geostationary Environmental Monitoring Spectrometer ...

The National Institute of Environmental Research (NIER) in the Republic of Korea has constructed an Environmental Satellite Center (ESC) and developed a ground station system for the

Aug 15, 2025

Introducing the geostationary environment monitoring spectrometer

To consistently observe deteriorating air quality over East Asia, the National Institute of Environmental Research, Republic of Korea, is planning to launch an environmental observation sensor, the

May 23, 2026

Introducing the geostationary environment monitoring spectrometer

The South Korean government is developing the first geostationary environment spectrometer (GEMS) and planning its launch in 2019 to consistently monitor deteriorating air quality and establish and

Feb 27, 2026

South Korea Environmental Radiation Monitoring System Market

The South Korea Environmental Radiation Monitoring System Market is driven by a dynamic ecosystem of domestic conglomerates (chaebols) and innovative SMEs, supported by a

Mar 03, 2026

ScienceCentral

The Geostationary Environment Monitoring Spectrometer (GEMS) onboard the Geostationary Korea Multi-Purpose Satellite (GEO-KOMPSAT-2B) mission was launched by the National Institute of

Aug 24, 2025

CASE STUDY Geostationary Environment Monitoring Spectrometer

(GEMS) The Geostationary Environment Monitoring Spectrometer (GEMS), launched by the Republic of Korea in February 2020, enables the hourly monitoring of air pollution levels for almost 20 countries

Mar 17, 2026

South Korea's Geostationary Environmental Monitoring Spectrometer

TEMPO will join South Korea's Geostationary Environmental Monitoring Spectrometer (GEMS), which launched in 2020 and looks down on most of Asia.

Aug 25, 2025

Geostationary Environment Monitoring Spectrometer (GEMS ...

The Geostationary Environment Monitoring Spectrometer (GEMS), launched by the Republic of Korea in February 2020, enables the hourly monitoring of air pollution levels for almost 20 countries in Asia.

May 14, 2026

South Korea Environmental Mass Spectrometer Market Trade

The South Korea Environmental Mass Spectrometer Market Research Report provides an authoritative, data-driven foundation for strategic decision-making in one of the fastest-evolving

Oct 28, 2025

GEMS /TEMPO

A geostationary scanning ultraviolet-visible spectrometer, GEMS is monitoring trans-boundary nitrogen dioxide, sulfur dioxide, glyoxyl, formaldehyde, ozone and

Sep 10, 2025

Geostationary Environment Monitoring Spectrometer (GEMS) p ...

ionary environmental satellite instrument, is a UV-Vis hyper-spectrometer sensor mounted on the 105 GeoKOMPSAT-2B. The GEMS instrument was co-developed by the Korea Aerospace Research

Oct 26, 2025

Pioneering Air Quality Monitoring over East and

The Geostationary Environment Monitoring Spectrometer (GEMS) onboard the Geostationary Korea Multi-Purpose Satellite-2B (GEO-KOMPSAT

Oct 28, 2025

(PDF) First-time comparison between NO₂ vertical

The Geostationary Environmental Monitoring Spectrometer (GEMS) is a UV-visible (UV-Vis) spectrometer on board the GEO-KOMPSAT-2B

May 01, 2026

Introducing the geostationary environment monitoring

GEMS is a hyperspectral spectrometer that covers the ultraviolet-visible range (300 to 500 nm) with full-width at half-maximum of 0.6 nm. It has

Jun 23, 2026

Geostationary Environment Monitoring Spectrometer (gems) Over the Korea ...

Introduction: The Geostationary Environment Monitoring Spectrometer (GEMS) is one of two instruments manifested aboard the South Korean Geostationary Earth Orbit KOrsa Multi-Purpose

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