Paper ID: 75341
student

Topics (T)
Interactive Presentations (IP)

Author: Ms. Andrea Dominguez
Instituto Tecnológico de Durango (ITD), Mexico

Mr. Andres Josue Ramirez Colchero
Instituto Tecnologico de Educacion Superior de Occidente (ITESO), Mexico
Mr. Miguel Lopez Minakata
Instituto Tecnologico de Educacion Superior de Occidente (ITESO), Mexico

ANALYSIS OF THE APPLICATION OF GRAPHENE NANOSENSORS IN CONJUNCTION WITH LANDSAT SATELLITE TECHNOLOGY FOR THE DETECTION OF GREENHOUSE GASES

Abstract

Nanosensors are high-precision measurement devices that use nano-engineered materials and techniques to measure a wide variety of variables and are becoming increasingly popular due to their small size, low cost and high sensitivity. One of the most promising are graphene-based nanosensors, as graphene is a conductive and thermoelectric material, which means it is sensitive to changes in climatic conditions such as temperature and humidity. Therefore these types of sensors have proven to be highly accurate for use in a variety of applications. One example of this is their use in the aerospace industry, where such nanosensors can be used to monitor the operating conditions of airborne vehicles more accurately, such as temperature extremes, vibration, vehicle speed and altitude, thus ensuring the safety and reliability of the equipment.

Another application of this type of nanosensors involves the environmental sector, where they, optimized together with satellite technologies such as the Landsat project, can be used for climate change detection and prevention, noting changes and concentrations in gases such as carbon dioxide, methane, temperature, humidity, among others. This allows early identification of trends in greenhouse gas levels and the taking of measures to mitigate their impact.

Therefore, the use of graphene nanosensors in conjunction with Landsat satellite imagery to improve the detection of greenhouse gases was investigated and theoretically proposed. It was observed that, due to their unique properties, these devices are highly sensitive and accurate in detecting changes in the concentration of gases in the environment at very low levels. It was observed that the study of such graphene nanosensors in combination with Landsat satellite imagery allows for greater accuracy and efficiency in the detection of greenhouse gases compared to traditional methods. This suggests that such technologies could be a valuable tool in the fight against climate change.