# Are carbon content measurements accurate using a spectrometer

VIS-NIR spectrometric measurements are usually performed under controlled laboratory conditions. Samples are suitably prepared, above all in terms of material homogenization. The ...

It"s particularly useful for detecting specific types of carbon-based materials, like graphitic or aromatic carbon, which are important components of soil organic matter.

A few tenths of a percent difference in carbon content can have a dramatic effect on the mechanical properties of iron and steel, so its accurate measurement is critical to ferrous metallurgy. Chemical ...

Our results showed that compact NIR spectrophotometers are a cost-effective alternative to the Vis-NIR spectrophotometers for large-scale SOC measurement. Models built using these instruments were ...

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In this article, we verify the use of a commercially available laser-induced breakdown spectroscopy analyzer, the LaserAg-Quantum, coupled with the recursive feature addition, the...

In this study, we investigated the usefulness of an FT-NIR spectrometer (NanoQuest) for estimating SOC content while correcting for the effect of soil moisture using External Parameter ...

Optical Emission Spectroscopy (OES) is a highly accurate method for measuring carbon content in steel. It involves creating a plasma from the sample using an electric arc or spark and ...

The primary purpose of this paper is to present a method for estimating the measurement uncertainty of carbon determination in carbon and low alloy steel by spark atomic emission ...

Near-Infrared Spectroscopy is a cost-effective and environmentally friendly technique that could represent an alternative to conventional soil analysis methods, including total organic carbon (TOC). ...

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