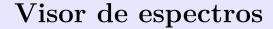


TFG del Grado en Ingeniería Informática





Presentado por Iván Iglesias Cuesta en Universidad de Burgos — 28 de junio de 2018

Tutor: Dr. José Francisco Díez Pastor Cotutor: Dr. César Ignacio García Osorio



D. José Francisco Díez Pastor y D. César Ignacio García Osorio, profesores del departamento de Ingeniería Civil, área de Lenguajes y Sistemas Informáticos

Exponen:

Que el alumno D. Iván Iglesias Cuesta, con DNI 45573756S, ha realizado el Trabajo final de Grado en Ingeniería Informática titulado "Visor de espectros".

Y que dicho trabajo ha sido realizado por el alumno bajo la dirección de los que suscriben, en virtud de lo cual se autoriza su presentación y defensa.

En Burgos, 28 de junio de 2018

V°. B°. del Tutor: V°. B°. del co-tutor:

D. José Francisco Díez Pastor D. César Ignacio García Osorio

Abstract

Raman spectroscopy is a non-destructive analysis technique used to know the structure and composition of a material or element. In the field of geology the use of this technique is common to determine the composition, origin or depth of extracted mineral samples.

Currently, data mining techniques are beginning to be used for the identification of these spectra. Although there are tools that are able to visualize and apply certain operations on the spectra, there is no specific software that facilitates the application of data mining techniques on the spectra.

This project is carried out in collaboration with a researcher in geology who uses this technique for the analysis of a particular mineral called variscite. This project is based on techniques and algorithms developed in previous collaborations.

The development of this project seeks to develop a web application that allows to load the spectra, visualize and process them, as well as applying data mining techniques to build classification models for new samples.

Keywords

Machine learning, data mining, spectra processing, variscite, Raman espectroscopy, web application.