



Signal Processing & Data Analysis for Plasma Spectroscopy: Practical Exercises

Dr. Ardian Gojani
Secopta Analytics, Germany

Abstract

The webinar is the second part of the talk given at the "Data Science Applications in Physics" Balkan School in Tirana 2024. In the first part, many features of plasma spectroscopy were discussed, such as the diagnostics obtained from a line emission of plasma radiation, as well as some practical aspects related to spectroscopy, such as determination of signal-to-noise, background removal from spectra, peak detection, and similar.

In the webinar, this work will be discussed further, but now with practical examples: initially, the procedure for producing synthetic spectra will be discussed. Afterwards, background correction and peak detection will be implemented. Lastly, two chemometric techniques for analysis will be used for exploratory and regression analysis.