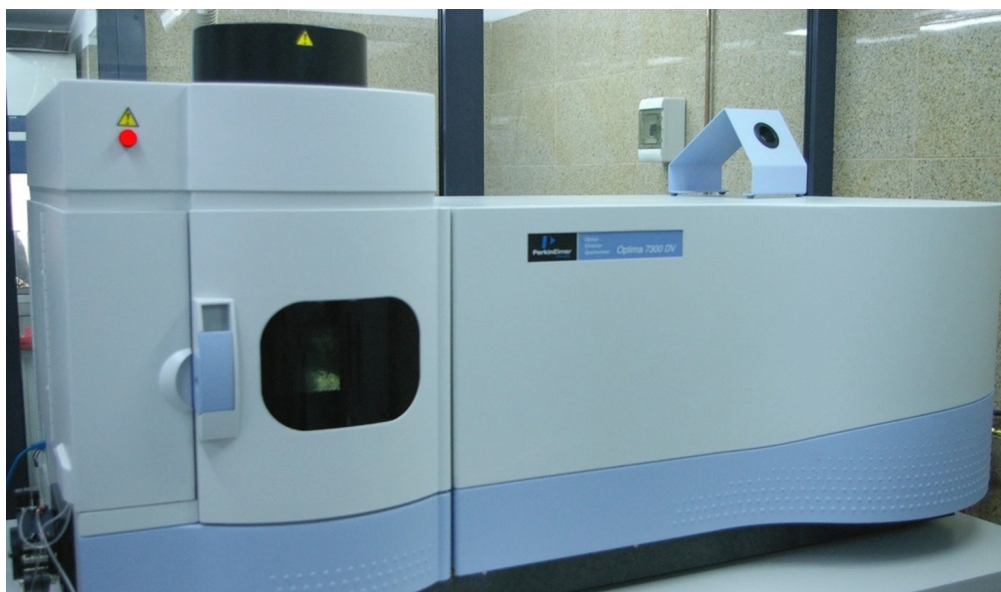


Inductively Coupled Plasma Optical Emission Spectrometer (ICP-OES)



Technical description:

Inductively Coupled Plasma Optical Emission Spectrometer model Optima 7300DV (Perkin Elmer).

Plasma can be observed in two directions, in the so-called dual view system (axial and radial). The use of two semiconductor detectors (one for UV, one for Vis) allow for the simultaneous performance of multi-element analyses in a wide range of concentrations with high resistance to difficult sample matrices. Flexible selection of wavelengths.

More details: https://resources.perkinelmer.com/corporate/content/relatedmaterials/brochures/bro_optima7x00seriesicp-oes.pdf

Trade name: Optima 7300DV

More details: </equipment/optyczny-spektrometr-emisyjny-ze-wzbudzeniem-w-p-2/>

Access type: External

Type of accreditation / certificate: Accreditation

Contact person: Kmiecik Ewa

Contact person url: <https://skos.agh.edu.pl/osoba/ewa-kmiecik-5388.html>

Responsible body: Department of Hydrogeology and Engineering Geology

Group / laboratory / team: Hydrogeochemical Laboratory

Last update date: May 27, 2023, 3:20 p.m.

Year of commissioning: 2009

IDUB research areas:

(PRA 2) New technologies for the circular economy: merging business models with ecoinnovations to improve productivity and minimise waste, as well as to create knowledge and use it

(PRA 3) Water-energy-climate: interdisciplinary approach to sustainable development

(PRA 7) Design, production, and testing of modern materials and the technologies of the future based on a multidisciplinary approach combining materials engineering with chemistry, physics, mathematics, and medicine

Research capabilities:

ICP-OES is a high sensitive, multi-elemental, accurate and fast technique that is widely used in environmental analysis. It allows to measure the concentration of almost all elements in aqueous solutions. The analysis of solid samples requires their prior preparation, e.g. by microwave digestion.

Measurement capabilities:

Depending on the analysed element and the matrix of sample, it is possible to measure concentrations of $\mu\text{g/L}$. Routinely, the limits of quantification range from several to several hundred $\mu\text{g/L}$. Details can be found in the scope of accreditation for testing laboratory no. AB 1050.

Conditions for providing infrastructure:

As part of contracts and orders after prior approval by the Head of Laboratory. Tests are performed only by authorized personnel of the Laboratory.