

Apparatus for measuring thermal diffusivity by LFA method and also specific heat and phase changes by DSC method



Technical description:

The set consists of three stands equipped with precise measurement apparatus provided by Netzsch: LFA 467 HyperFlash, LFA 467 HT HyperFlash and DSC 214 Polyma. This apparatus allows the measurement of thermal diffusivity in the range from 0.01 to 1000 mm²/s at the temperature value [-100°C, + 500 ° C] and [ambient temperature, + 1250 ° C], and in the case of measuring the specific heat by the DSC method at the temperature value [-170 ° C, + 600 ° C]. Various materials can be analyzed, also materials of high thermal conductivity value and thin foils up to 1 mm of thickness, liquids with low thermal conductivity values, liquids with low viscosity (e.g. water, oils) or powders.

Trade name: Apparatus for measuring thermal diffusivity by LFA method and also specific heat and phase changes by DSC method

More details: </equipment/zestaw-do-pomiaru-dyfuzyjnosci-cieplnej-metoda-lfa/>

Access type: External

Type of accreditation / certificate: Not applicable

Contact person: Fornalik-Wajs Elzbieta

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Responsible body: Department of Fundamental Research in Energy Engineering

Group / laboratory / team: Transport Phenomena in Complex Flows Group - Phenix, Laboratory of Advanced Thermal Measurements

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Year of commissioning: 2022

IDUB research areas:

(PRA 1) Sustainable energy technologies, renewable sources of energy, energy storage, and resource management. Design, production, application, synergy, and process integration

Research capabilities:

Measurement of thermal diffusivity in the range from 0.01 to 1000 mm²/s for a wide range of temperature values [-100°C,1200°C], measurement of specific heat using the DSC method in the temperature range [-170°C, +600°C]. Various materials can be analyzed in terms of thermal properties and physical form.

Measurement capabilities:

Measurement of thermal diffusivity in the range from 0.01 to 1000 mm²/s for a wide range of temperature values [-100°C,1200°C], measurement of specific heat using the DSC method in the temperature range [-170°C, +600°C]. Various materials can be analyzed in terms of thermal properties and physical form.

Conditions for providing infrastructure:

The research infrastructure can be used by the researchers and PhD students of the Faculty of Energy and Fuels and other Faculties of the AGH, but it is not possible to use the equipment on their own. Measurements will be carried out by an authorized person at the place of its installation. Measurements will be payable if they are carried out as part of externally funded research (e.g. grants from the NCR&D, the NSC, projects from industry, etc.). Other requests will be considered individually.