AGH Research Offer

Scanning Laser Doppler Vibrometer (SLDV)

Technical description:

Universal measurement system allowing the analysis and visualization of structural vibrations in high frequency band (from 0 to 25 MHz) and very high precision ($<1 pm/\sqrt{Hz}$ or <0.1 µm/s/$\sqrt{Hz}$). The use of near infrared laser source (~1550 nm) allows for avoiding retro reflective coatings of measured surfaces (unlike in older generation devices). Full-field measurements on predefined grids of points. Built-in geometry scanner allows for acquiring the geometry of measured objects. Software allows for detailed analysis of the acquired vibration signals, creating plots and animations in 2D and 3D as well as exporting the data to other systems.

Trade name: Scanning Laser Doppler Vibrometer Polytec PSV 500 Xtra

More details: /equipment/skanujacy-wibrometr-laserowy-sldv/

Access type: External

Type of accreditation / certificate: Not applicable

Contact person: Pieczonka Łukasz

Contact person url: https://skos.agh.edu.pl/osoba/lukasz-pieczonka-6742.html

Responsible body: Department of Robotics and Mechatronics

Group / laboratory / team: Laser vibrometry group

Last update date: July 4, 2023, 2:42 p.m.

Year of commissioning: 2022

IDUB research areas:

(PRA 5) Materials, technologies, and processes inspired by nature: biotechnology, bioinspirations in engineering and materials science, biosensors, bioenergetics, biocatalysis, biocomputers, and biocomputation
(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:

The main application of this measurement system is in noise vibration and harshness (NVH) analyses, structural diagnostics including nondestructive testing (NDT) and structural health monitoring (SHM), as well as verification and validation (V&V) tasks.

Conditions for providing infrastructure:

In the case of projects/grants conducted in cooperation with other AGH departments/groups and external organizations, in which the device operator/attendant is a member of the team publishing the research results the infrastructure is made available free of charge. The use of device is possible in the presence of the operator/attendant and by persons who have operating skills confirmed by head of the department.