Engineering structures and bridges

Testing and diagnostics of structures by means of a hydraulic vibration exciter

- Source of dynamic excitation of structures (force 0.5 to 10.0 kN, frequencies 0.2 to 100.0 Hz)
- Time course of the excitation force: harmonic, periodic, generally deterministic, and random
- Harmonic excitation with the contact amplitude of the excitation force in the wide band of excitation frequencies
- Direction of the effect of the channelled vector vertical or horizontal, yet also in the general direction
- Set of preparations for accelerating the exciter and the excitation force into various structures and their parts
- Extensive equipment for controlling the exciter‘s operation, force measurement, and tuning the structure

Dynamic loading test of Nuselský Bridge - Prague

Dynamic loading test of Moravičany Bridge

Measurement workstation

Dynamic loading tests of bridges pursuant to ČSN 73 6209

- Basic assessment of the actual state and behaviour of the structure according to the response to the excitation using an exciter
- Determining the selected characteristics of the load-bearing structure
- Verifying the static and dynamic calculation of the bridge according to the experimental results

Complex diagnostics of defects of engineering structures and bridges

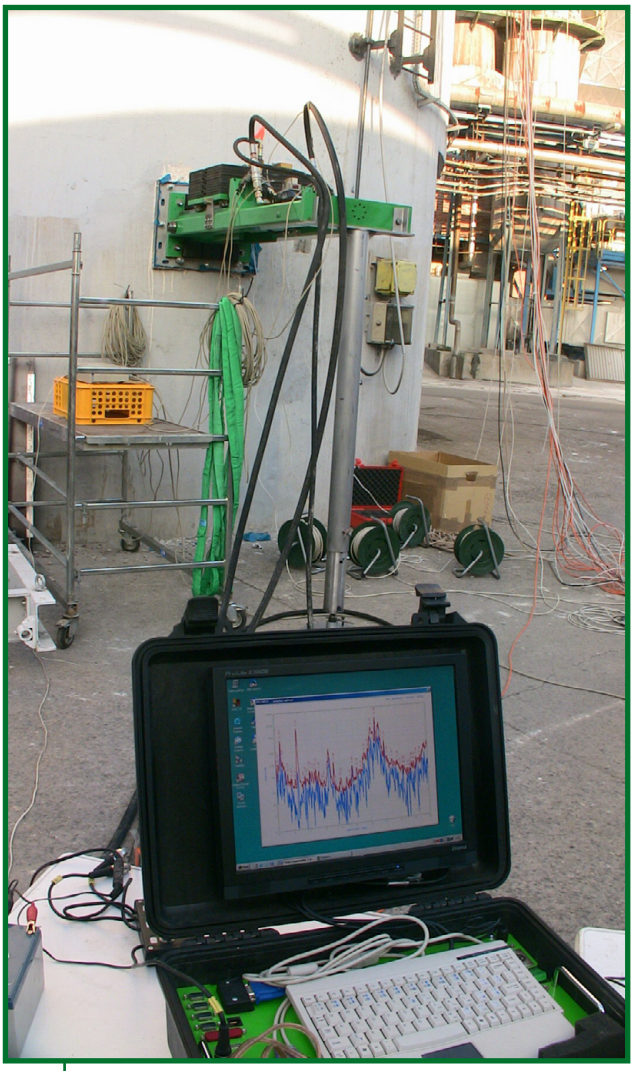
- Global identification and localisation of serious imperfections and other defects of the load-bearing system
- Local diagnostics of imperfections, defects, components, part, and structural details of buildings

Identification of the load-bearing structures using the method of modal analysis

- Determining the structural characteristics (geometric, material, strengths, and actual boundary conditions) using dynamic response
- Assessment of the condition of new and older buildings for the purposes of the decision-making process and designing

Analysis of the transfer of the dynamic signal through the bedrock

Dynamic loading test of the bridge



Diagnostics of the highest chimney in Europe (Trbovlje Power Plant) - Slovenia

Determining the dynamic parameters of structures and their parts

- Global and local examination of dynamic parameters of structures and buildings and their parts for the purposes of examining their response to dynamic operational load (cars, wind, seismicity, engineering technological equipment etc.)

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