DIGASYS

Digital Analysis of Systems

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Diginfo

DIGASYS develops solutions for your vibration, noise and fatigue problems.

DIGASYS uses following technologies for more than 20 years:

- multi channel recording of vibrations, noise, forces, pressures, stresses,...
- real time frequency analyses (spectra, waterfall, modal analysis, ...)
- telemetry up to 16 channels simultaneously (torque, stresses, vibrations, ...)
- dynamic finite element calculations (natural frequencies, vibration levels)
- lifetime prediction by means of measurements and calculations

Our approach has been applied many times in following industries:

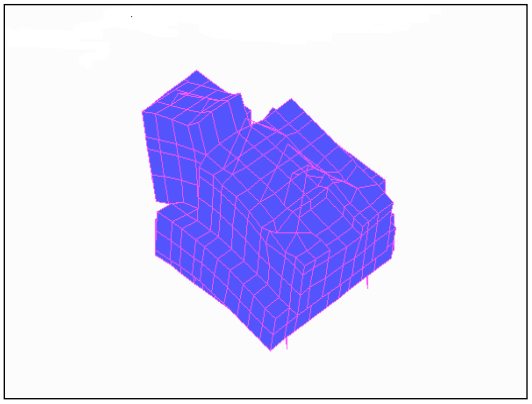
- building sector (truss structures, foundations, buildings, floors, bridges)
- cement industry (foundations, mills, kilns, separators)
- electricity and electronic sector (motors, bus bars, datacentres, radars)
- energy sector (foundations, turbines, generators, windmills, switch gears)
- pharmaceutical industry (tablet presses, filling machines, reactors, chimneys)
- graphical industry (foundations, printing presses, cameras, printers)
- aerospace (helicopters, satellites, docking systems, test set-ups)
- machine building (compressors, pumps, fans, chillers, motors, presses)
- mining (foundations, drives, rotating kilns)
- paper industry (foundations, head boxes, presses, coaters, dryer sections)
- petrochemical industry (foundations, heat exchangers, pumps, silos, screens)
- steel industry (cranes, piping, wire drawing machines)
- textile sector (looms, silk mills, environmental vibrations)
- transportation (coaches, trucks, tramway, metro, trains, ship building)
- food industry (drives, shakers, sorting machines)

Our ambition is to let your equipment work with minimal vibrations and noise emission and maximum lifetime.

Buildings and structures

- measurement and calculation of vibration isolation of buildings (hospitals, labs)
- dynamic design of foundations and truss structures (turbines, fans)
- calculation of floating floors (meeting rooms, labs)
- determination of the vibration transmission caused by road and rail traffic
- measurement of vibration nuisance in buildings (ISO, DIN)
- measurement of building damage caused by vibrations (DIN)
- seismic analysis on concrete and steel structures (bridges, aqueducts, …)

Prediction of the vibration transfer by trains

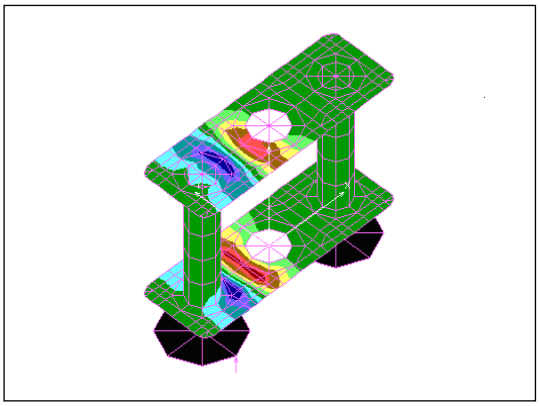


Dynamic design of machine foundations

Cement industry – Mining – Steel industry

- measurement and calculation of natural frequencies of foundations (rotary kilns)
- measurement of torsional resonances on drives of rotating machinery (kilns, grinders)
- measurement of critical speeds (separators, motors)
- measurement of torque by means of telemetry (kilns, crushers, grinders)
- stress measurements on gears and drums (crushers, mills)
- measurement and calculation of dynamic loads (lifting equipment)
- measurement of forces (wire drawing machines, lifting equipment)

Measurement of torque on drive of a rotary kiln

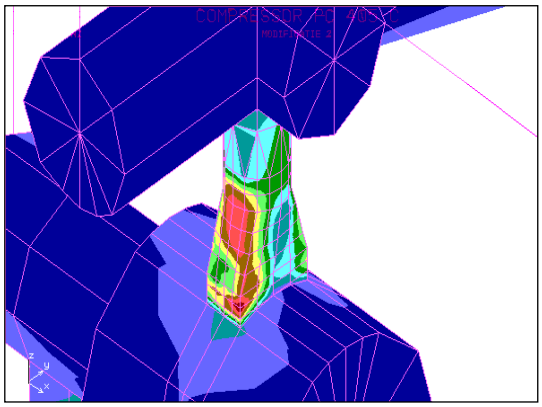


Forces in bogie of gantry crane

Petrochemical industry – Pharmaceutical industry

- vibration reduction of pipes by means of finite element method
- dynamic design of machine foundations and truss structures (pumps, fans, …)
- measurement of pressure pulsations (pumps and fans)
- vibration isolation of equipment (pumps, compressors, presses)
- high temperature vibration measurements (pipes, heat exchangers and furnaces)
- life time prediction (silos, heat exchangers, columns, rotating machines)
- localization and reduction of noise sources (compressors, fans, …)

High temperature vibration measurements

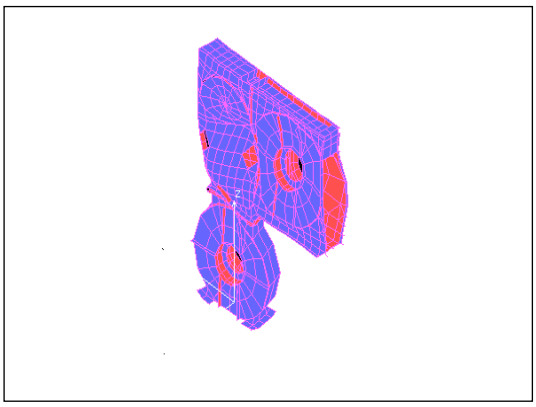


Calculation of dynamic stresses in pipes

Paper sector – Graphic industry

- measurement and calculation of critical speeds of foundations (presses, coaters)
- measurement of torsional resonances on drives (wet end, presses)
- dynamic analysis of gear boxes (dryer sections, presses)
- pulsation measurements (coater liquids, pulp head boxes)
- prediction of vibration levels due to speed increases (presses, dryer sections)
- improve of the vibration behavior (printing presses, paper machines)
- vibration test and shock tests (cameras, videos)

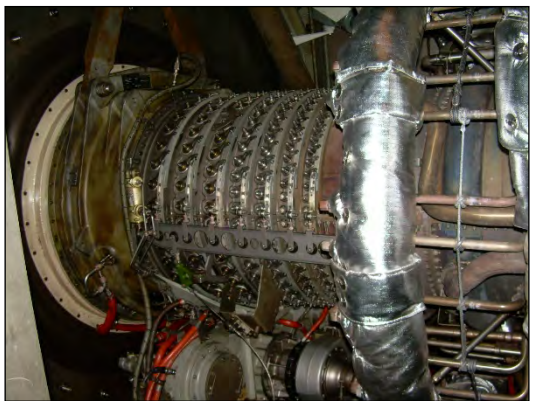
Torque measurement by means of telemetry



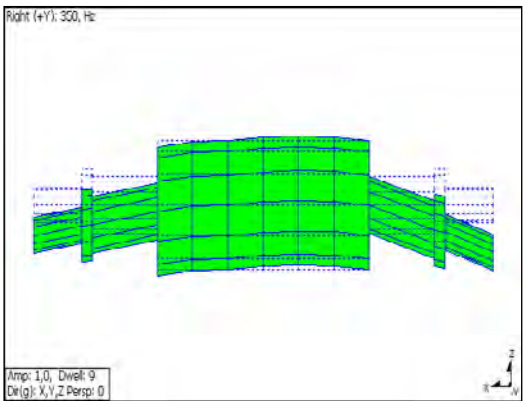
Deformation of gearbox paper machine

Machine building – Energy sector – Electricity sector – Electronics

- measurement and calculation of critical speeds of spindles (motors, compressors, …)
- measurement of the dynamic deformations, natural frequencies and modes shapes
- signature analysis and identification of resonances (turbines, compressors, …)
- measurement of forces and stresses in machine components (bolts, drive struts, valves)
- multi-channel measurements on rotating parts by means of telemetry
- vibration monitoring of datacenters (hard disks, printers)
- prescription of noise reduction measures (dryers, presses, drives, …)



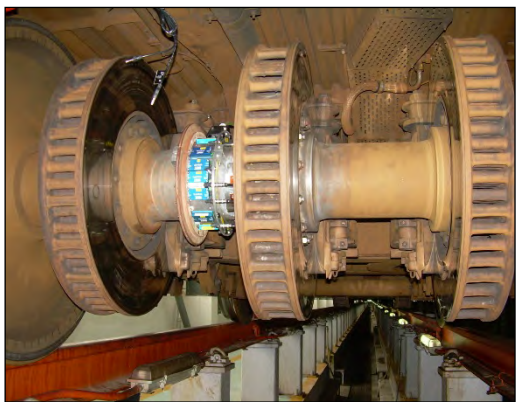
Measurement of resonances on a gas turbine



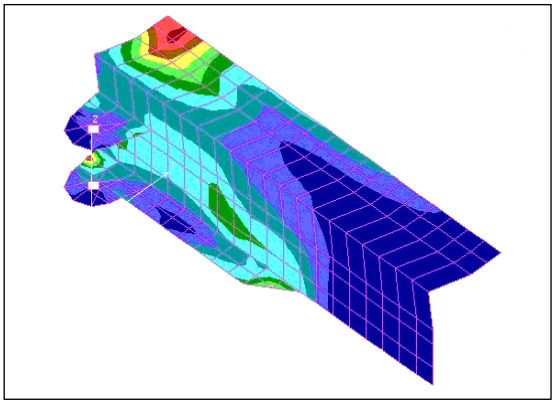
Determination of critical speeds of a rotor

Transportion sector – Aeronautics - Aerospace

- measurement of bolt forces on rotating and non-rotating parts
- measurement vibration in a helicopter (video-recording)
- measurements of micro accelerations and shock tests on aerospace applications (Proba 2)
- determination of lifetime of vehicle components (bogies, brake calipers, linkages)
- measurement of the vibration comfort in vehicles (busses, trains, metros, ships)
- improve of the noise comfort in vehicles (busses, trains, ships)
- measurement of the pass-by noise of vehicles (busses, trains, tramways)



Multi channels telemetry on wheel axle



Lifetime prediction on a connecting member