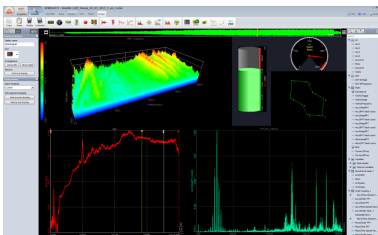


<https://www.eomys.com/services/articles/article/mesures-experimentales-avancees>



Advanced experimental measurements

- Services - Articles -



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Besides its modeling and simulation activities, EOMYS can run some **multiphysic experimental measurements**. These tests can be carried for **pre-certification purpose** (e.g. check fulfilment of IEC 60034-9 acoustic noise limits), for **investigation purpose** (e.g. acoustic noise troubleshooting in electric motors) or for **numerical model fitting** (e.g. extraction of modal parameters).

In particular, EOMYS can do the following measurements in terms of

- ▶ **vibro-acoustics**: acceleration, acoustic pressure and power
- ▶ **electromagnetics**: current, voltage, electrical and magnetic field intensity
- ▶ **heat transfer**: temperature, flow rate, fluid speed, static and dynamic pressure

Vibroacoustic post processing include transfer path analysis (OTPA, ATPA), run-ups, order tracking analysis, [spectrograms and sonagrams](#), operational and experimental modal analysis, operational deflection shapes.

EOMYS test equipment includes:

- a 16-channel Dynamic Signal Analysis acquisition system (SIRIUS) with Dewesoft software
- three-axis or mono-axis piezoelectric accelerometers (Bruel and Kjaer), including miniature accelerometers
- voltage and amperemeter clamps (Chauvin et Arnoux)
- free-field microphones (PCB)
- electrodynamic shaker (LDS) and impact hammer (DJB)
- infrared temperature sensor (Optris) and thermocouples

Measuring activities generally include the following steps:

- design of the test campaign
- instrumentation of the system
- field measurements
- off-line post-processing and analysis
- technical reporting including recommendations