Special Issue

Linear and Non-linear AC Magnetic Susceptibility for the Study of Superconducting and Magnetic Materials

Message from the Guest Editors

The AC magnetic susceptibility (ACMS) technique is a powerful tool which makes it possible to investigate the magnetic response of a material when an AC magnetic field is applied. By changing the AC field amplitude and frequency, it is possible to probe the different magnetic behaviors and obtain information about the characteristic magnetic properties of the material. In particular, the study of superconductors by means of the ACMS technique enables researchers to determine the shielding and dissipation properties of the investigated sample by analyzing the real and imaginary part of the AC fundamental harmonic, respectively, together with other important features for applications such as critical temperature, critical current density in the AC regime, pinning properties, etc. Moreover, by analyzing the first- and third-harmonic components it is possible to study the vortex dynamics of the sample, distinguishing different dissipative regimes. [...]
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AC_susceptibility

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Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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