

Anisoft –Advanced Treatment Of Magnetic Anisotropy Data

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Since its first release, Anisoft (Anisotropy Data Browser) has been very well accepted by magnetic fabric community mainly due to its simple and user-friendly interface enabling convenient visualization of magnetic anisotropy data. Here, a major software update is presented transforming a rather simple data viewer into a platform offering an advanced data treatment. The update introduces new data format which stores both in-phase and out-of-phase (if measured) susceptibility tensors (AMS) or tensors of anisotropy of magnetic remanence (AMR) together with their confidence limits. In addition to the tensor data, specimen sampling angles are stored for each record enabling later editing or corrections. Each record also contains an array mesoscopic structural data enabling data transformation into various coordinate systems. Multiple anisotropy files can be combined together or split into several files by manual data selection or data filtering. Anisotropy tensors are conventionally visualized as principal directions (eigenvectors) in stereoplots together with a user's choice of quantitative anisotropy parameters presented in histograms or in color-coded scatter plots showing mutual relationship of three variables. For a group of specimens, principal anisotropy directions can be contoured, or a mean tensor and respective confidence ellipses can be calculated using either the Hext-Jelinek statistics or the Bootstrap method. To facilitate the AMR tensor calculation, a simple toolbox is available. The AMR tensors are fitted by a least-square algorithm using a set of pre-selected full-vectors (full-vector method) or their projections to the respective magnetizing directions (projection method). Each graphical output can be exported into several vector or raster graphical formats or, via clipboard, pasted directly into a presentation or publication manuscript. Calculated principal directions or anisotropy parameters can be exported into various types of text files ready to be visualized or processed by any software of user's choice. The software can be downloaded from this link: <https://www.agico.com/text/software/anisoft/anisoft.php>

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