

Safyr – a software for complex treatment of magnetic susceptibility data: from acquisition to presentation

Martin Chadima^{1, 2}

¹ Agico, Inc. Jecna 29a, CZ-62100 Brno, Czech Republic

² Institute of Geology AS CR, v.v.i., Rozvojova 269, CZ-16500, Prague 6, Czech Republic

Corresponding author: chadima@agico.cz

Abstract: Safyr is a MS Windows software for complex treatment of magnetic susceptibility data as acquired by MFK series of Kappabridges. The software provides a very simple and straightforward graphical user interface which consists of two tabs to switch the program between the Data acquisition and Data viewing modes. Data acquisition mode controls the instrument and includes: 1) measurement of anisotropy of magnetic susceptibility (using manual 15-direction design, or automatic 1-axis, or 2-axis rotators), 2) bulk susceptibility measurements, and 3) field dependence of magnetic susceptibility. Data viewing mode visualizes and processes acquired data according to the respective mode of data acquisition: 1) principal directions of magnetic anisotropy tensors are calculated and visualized together with the quantitative parameters of magnetic anisotropy, mean tensors and their confidence ellipses are calculated, 2) bulk magnetic susceptibility data are presented as a pivot table where various frequency dependence parameters are calculated, 3) field dependence data are visualized as curves for which various field dependence parameters are calculated. Each diagram can be exported into both vector or raster graphics formats or, via clipboard, pasted directly into the presentation.

Keywords: magnetic susceptibility, anisotropy of magnetic susceptibility, field dependent susceptibility, frequency dependent susceptibility, Kappabridge