Towards data interchangeability in paleomagnetism

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Paleomagnetic data are used in different data formats, adapted to data output of a variety of devices and specific analysis software. This includes widely used openly available software, e.g. PMag.py/MagIC, AGICO/.jr6 & .ged, and PuffinPlot/.ppl. Besides these, individual software and data formats have been established by individual laboratories.

Here we compare different data formats, identify similarities and create a common and interchangeable data basis. We introduce the idea of a paleomagnetic object (pmob), a simple data table that can include any and all data that would be relevant to the user. We propose a basic nomenclature of abbreviations for the most common paleomagnetic data to merge different data formats. For this purpose, we introduce a set of automatization routines for paleomagnetic data conversion. Our routines bring several data formats into a common data format (pmob), and also allow reversion into selected formats. We propose creating similar routines for all existing paleomagnetic data formats; our suite of computation tools will provide the basis to facilitate the inclusion of further data formats. Furthermore, automatized data processing allows quality assessment of data.