

Version 6.3, 4 July 2025 (The sorrows of old Wolfgang)

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New features

+ New plugin 'HafAn' for interpretation of Lu-Hf isotopic data and U-Pb ages from igneous rocks and detrital zircon populations. See Janousek (2024), <https://doi.org/10.3190/jgeosci.391> for details.

+ A GUI function `srndOptions()` enabling selection of decay constants and various other parameters for the Rb-Sr and Sm-Nd isotopic systems in the 'SrNd' plugin.

+ New plugin 'Vermeesch', introducing LDA- and QDA-based diagrams for geotectonic discrimination of igneous rocks (Vermeesch 2006).

+ The 'tetrad' plugin now contains a function `lambda.tetrad.fit()` fitting orthogonal polynomial functions to chondrite-normalized REE patterns of Anenburg and Williams (2022) (kindly contributed by M. Anenburg).

+ New models for zircon saturation calculations: Gervasoni et al. (2016), Crisp et al. (2022) and Borisov et al. (2025).

+ New normalization values for spiderplots (full and REE spectra in CI chondrites after McDonough and Sun 1995, Palme and O'Neill 2014, O'Neill 2016).

+ Three new plates for trace-element discrimination of arc, slab failure, and A-type granitic rocks of Whalen and Hildebrand (2019).

Bug fixes, performance improvements:

+ Fixed a major conflict between global function labels and GCDkit variable labels that was causing ggplot to crash.

+ `chullGroups()`, `chullAll()` did not work well for variables with missing values.

+ colours expressed in hexadecimal format were not rendered correctly by `loadData()` and friends.

+ Replacement of the #WHATEVER values in importing Excel sheets was working incorrectly.

+ `sampleDataset()` does not perform the check of variable names anymore, which was corrupting correct variable names of isotopic data (i.e., colnames starting with number).

+ `R2clip()` and `saveResults()` did not handle data frames correctly.

+ Oveplotting of ideal minerals on millications-based binary and ternary plots (Debon, Villaseca, De la Roche, Batchelor).

+ `profiler()` got new arguments `ymin`, `ymax`, `new`.

- + The wrong character encoding of the file storing atomic weights (MW.data) caused crashes on Japanese systems.
- + Thoroughly checked and fixed behaviour of plotting functions in Jupyter notebooks, such as `binary()`, `ternary()`, `plotWithLimits()`, `multiple()`, `spider()`, `plotDiagram()`, `profiler()`.
- + If calling `groupsByCluster()`, empty response for number of clusters triggers interactive identification of individual clusters (the future groups).
- + Many `dois` in the Help system did not open, as they are newly blocked by publishers from opening within a frame.