



## **FastGAPP 2.0 – A MATLAB-based program supports geoscientists interpreting data**

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Geochemical and studies of igneous, sedimentary, metamorphic rocks are fundamental to classify rock types and infer rock-forming processes in terms of the main-, minor-, trace element chemistry, and mineral / grain composition. All combined information provide a detailed image about I) the petrogenesis and evolution of igneous and metamorphic rocks, II) the magmatic processes involved in the evolution of igneous rocks, III) the geotectonic environment in which igneous rocks were formed, and IV) the identification of potential sources for clastic sedimentary rocks. Specific software programs for the evaluation of geochemical and petrological data are rare and often difficult to use. Additionally, changing settings of created plots and comparison of new analyses with published data are extremely time-intensive, and therefore, expensive and inefficient. FastGAPP v2.0 (Fast Geoscientific Analyses Plotting Program), a MATLAB-based graphical user interface, automatically reads geochemical and petrological datasets from Excel spreadsheets, ASCII-, or MAT-files, normalises the data, and plots up to 9 datasets in common published classification diagrams. FastGAPP v2.0 covers new fields of geosciences (classification and interpretation of sedimentary rocks and soil classification), has an improved functionality spectrum and allows loading and saving of sessions. Its user interface gives a better overview about the input data and available plotting options (e.g., modification of markers and lines), which fundamentally improves plotting of data. Furtheron, several tools support and help the users by using FastGAPP. If lines and fields of published classification plots in other geoscientific fields (e.g., marine sciences) are available, FastGAPP can be easily extended according to requirements of the user. Therefore, the new version of FastGAPP is an efficient and very user-friendly improvement to its previous version and other programs and has many applications in geoscientific research and teaching.