The try of data mass production for Sr, Nd and Pb isotope ratios of rock samples

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Isotopic compositions of Sr, Nd and Pb have been the basic data set for the study of magma genesis, worldwide. However, numbers of the isotopic data is different by the area and the data accumulation is still insufficient in Japan. It could be caused by the fact that the analyses are time-consuming. Therefore, improvement of analytical methods is necessary to be realized the efficient production rate of isotopic data .

The analytical methods are composed of several processes such as decomposition of the samples, chemical separation of Sr, Nd and Pb from decomposed samples, and measurement by mass spectrometers. The rate of isotope measurement is dramatically increased by recent development of thermal-ionization or multi-collector-ICP mass-spectrometers. Even though, the rate of isotopic data production is still insufficient because chemical separation is time-consuming. Thus, we tried to automate the procedure of chemical separation. The new procedure is not still fully automated, but the binding time for the analyst can be reduced. It could be effective to efficient isotopic data production. In this presentation, we will present the outlined analytical procedures and preliminary repot for the obtained data.