Isotope geology—the scientific branch based on the mass-spectrometric studies of natural concentration of stable isotopes of some elements—is little known among the chemists. Considering its wide possibilities I'd like to pass you some information relating to this branch.

I. Isotope geochemistry—measurements of the variations of the stable isotopes H, C, N, O, S in natural materials. This method is for example used:
- in the geochemistry of ore-deposits, i.e. the determination of the source of H, O, C, S in hydrothermal solutions, the estimation of crystallization temperatures of minerals,
- in the geochemistry of sediments, i.e. the calculation of water temperatures in ancient oceans,
- in the environmental sciences, i.e. determination of the source of pollutions.

II. Geochronology methods—mass-spectrometric measurements of a stable daughter elements generated by a radioactive decay of a radioactive parent, for example
\[ ^{87}\text{Rb} \rightarrow ^{87}\text{Sr} + \beta^- + \nu + Q, \] where \(^{87}\text{Rb}\) is radioactive and decays to stable \(^{87}\text{Sr}\). The other used dating methods /e.g. K-Ar, U-Pb, Nd-Sm/ are based on the same principles as above mentioned Rb-Sr method. All of dating methods are used to age determinations of the rocks from Earth, Moon and meteorites.