

Isotope dating from a Nordic perspective – past, present and some thoughts about the future

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The first absolute ages of rocks and minerals from the Nordic countries, based on isotope analysis of radiogenic isotopes and their daughter products, were published more than 50 years ago. Since then, we have seen a dramatic development in the use of natural isotope variations not only as geological clocks, for determination of the ages of rocks and metamorphic events, but also as e.g. petrogenetic tracers in the study of various aspects of crustal evolution. Today isotope analysis is an integral and indispensable tool within many fields of geoscience, and advances in analytical techniques combined with developments in our understanding of the systematics of an increasing number of isotope systems continue to open up for new applications.

In this contribution I will present my personal view on this remarkable development and its impact on geoscience in the Nordic countries. Main focus will be on the study of the complex crustal history of the Fennoscandian Shield, based primarily on long-lived radiogenic isotopes and illustrated by a number of case studies. Contributions by both early pioneers and some more modern followers will be presented, and the crucial importance of micro-analytical techniques for scientific progress will be highlighted.