Geosciences Division
Physical Research Laboratory

Tuesday Seminar

Vanishing act of ^{142}Nd anomaly: story of the Khariar alkaline rocks

Abstract

Understanding of the early differentiation of the silicate earth requires knowledge of ^{142}Nd isotope composition in various terrestrial reservoirs. Produced by decay of short lived ^{146}Sm ($t_{1/2}$ = 68 Ma) the radiogenic ^{142}Nd is expected in primordial materials or subsequent products that may still carry its memory. Because of extremely low abundance of ^{146}Sm, measurement of radiogenic ^{142}Nd is very cumbersome and the anomalies (if any) in its isotopic ratios are expected in the six decimal place. Every anomalous value reported for ^{142}Nd w.r.t. terrestrial standard is therefore very important and affects the understanding of these early differentiation processes. In this context, the negative anomalous values reported for 1.48Ga alkaline rocks from Khariar are particularly important. These anomalous values have been questioned and reported to be analytical artefacts. We have carried out an independent study of these rocks and studied in detail the data acquisition and reduction methods to understand its effect on data quality control. I will discuss the parameters that can bias the data and the results of our experiment.

Speaker: Ms. Ikshu Gautam
SRF, GSDN

Date	Time	Venue
10-MAY-2016	16:00 hrs	Ground Floor Lecture Hall

All are invited to attend and participate in discussion

Tea at 15:30 hrs

Neeraj Rastogi, Seminar Secretary, Geosciences Division