Geosciences Division
Physical Research Laboratory

Special Seminar (Thursday)

What we have learned from ^{17}O-excess: a new tracer in hydrological cycle

Abstract

The stable isotope ratios of water in different phases acting as a powerful tracer of the global hydrological system. The ratio of $^{17}O/^{16}O$ and $^{18}O/^{16}O$ in air O_2 and water is very useful for assessment for photosynthetic production on large scales as well as in the hydrologic cycle. For all these applications, the ratio of ^{17}O /^{16}O and $^{18}O/^{16}O$ in water should be known with very high precision. A new hydrological tracer: ^{17}O-excess can be used to estimate the past humidity changes from ice cores and trace the stratospheric water vapor intrusion (especially at a remote site in East Antarctica). Interestingly trace of stratospheric influence also has been recorded at the mid-latitude during large volcanic eruption i.e. Pinatubo eruption in 1991. Recent work on Western Himalaya (Indian Side) clearly indicates the influence of ^{17}O -excess during westerly and Indian Summer monsoon. The more in-depth study is needed to understand the role of ^{17}O -excess in Himalayan Glacier and its ecosystem.

Speaker

Dr. Shyam Ranjan
DST Young Scientist, School of Environmental Sciences,
Jawaharlal Nehru University

Date	Time	Venue
17-Nov-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