

**Title:-** Luminescence Dating: Basics with a case study of dating moraines of central Himalaya

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**Abstract:**

Over the last 60 years, luminescence dating has developed as a robust chronometer for applications in Earth sciences and Archaeology. It has advantages over radiocarbon dating technique in terms of wide dynamic dating range, availability of samples, absolute dating technique and direct relation to the strata. The technique is particularly useful for accurate and precise dating ranging in age from a few decades to around 100,000–300,000 years. Though the precision would be lower for the samples of both few tens of years and older than ~300 thousand years. Recent developments in luminescence dating using quartz grains has provided reliable age estimates for the Late Quaternary sediments. This talk will cover, basic principles behind the luminescence dating technique of quartz, instruments that are used in determining luminescence age, sample collection technique, methods to obtain the age estimates, and interpretation of the luminescence ages. I'll demonstrate all with the help of a case study where Late Pleistocene Central Himalayan moraines were 'luminescence' dated using coarse grain quartz.