

MAR11-2011-020354

Abstract for an Invited Paper
for the MAR11 Meeting of
the American Physical Society

Isotopes for Research - Can We Continue to Depend on Them?

ROBERT ATCHER, Los Alamos National Laboratory

The use of isotopes as tracers has been critical to many scientific endeavors. The discovery of radioactivity was quickly followed by experiments in which radioisotopes were being used to trace the behavior of those elements in biologic systems including humans. More recently, the ability to separate and enrich stable isotopes has facilitated their use as probes in a variety of applications using magnetic resonance, mass spectrometry and post facto neutron activation to determine their distribution, concentration and chemical form. Recently, shortages of both stable enriched and radioisotopes have had an impact on endeavors on which they play an important role.