Targeted Alpha Therapy: The US DOE Tri-Lab (ORNL, BNL, LANL) Research Effort to Provide Accelerator-Produced $^{225}$Ac for Radiotherapy
KEVIN JOHN, Los Alamos National Laboratory

Targeted radiotherapy is an emerging discipline of cancer therapy that exploits the biochemical differences between normal cells and cancer cells to selectively deliver a lethal dose of radiation to cancer cells, while leaving healthy cells relatively unperturbed. A broad overview of targeted alpha therapy including isotope production methods, and associated isotope production facility needs, will be provided. A more general overview of the US Department of Energy Isotope Program’s Tri-Lab (ORNL, BNL, LANL) Research Effort to Provide Accelerator-Produced $^{225}$Ac for Radiotherapy will also be presented focusing on the accelerator-production of $^{225}$Ac and final product isolation methodologies for medical applications.