

The discovery of element 113 at RIKEN

Kouji Morimoto

RIKEN Nishina Center for Accelerator-Based Science, Japan

In the experimental program aiming to discover the 113th element produced by the $^{209}\text{Bi}(^{70}\text{Zn}, n)^{278}113$ reaction, we succeeded to observe three decay chains in 2004, 2005 and 2012. Finally the experiment for $^{278}113$ was finished on Oct. 2012. And the IUPAC would give the research group the rights of naming and determining the symbol for the element 113. In this talk all the results related to the discovery of 113th element will be presented.

New program aiming to produce further new elements 119th and 120th via hot fusion reactions was started. In order to study the hot fusion reaction with higher efficiency, a new GAs filled Recoil Ion Separator II (GARIS-II) that have large acceptance were developed. The status and future plans of new element search at RIKEN also will be presented in the conference.