

Analysis of cooling water samples in accelerator facilities

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Abstract

It is very important that the cooling water system for accelerator components such as magnets and targets is maintained safely in high energy accelerator facilities. Dissolution of metallic elements and radioactive nuclides into the cooling water may be much enhanced in high dose radiation fields in high energy accelerator facilities. In this work, the concentration of the metallic elements in the cooling water collected just after the beam stoppage was determined in order to clarify the dissolution behavior of the metallic elements from the cooling water system in radiation fields. The measurement was carried out in an electron linear accelerator facility. The PIXE method was attempted to be applied to the cooling water measurement.