Accelerator Applications Research Division
Nuclear Transmutation Technology Group

1. Abstract

Nuclear Transmutation Technology Group, develops elemental technology of high-power accelerators and high-power targets, aiming at future applications to nuclear transmutations of long-lived fission product into short-lived nuclides. The research subjects are superconducting rf cavities for low-velocity ions, design of high-power accelerators, high-power target systems and related technologies.

2. Major Research Subjects

(1) Development of high current ion source
(2) Design study of a normal conducting cavity of the low b section for 1 ampere class deuteron linear accelerator
(3) Design study of a superconducting spoke cavity of the high b section for 1 ampere class deuteron linear accelerator

3. Summary of Research Activity

(1) Development of high current ion source (H. Okuno and K. Tsumori)
(2) Design study of a normal conducting cavity of the low b section for 1 ampere class deuteron linear accelerator (H. Okuno and T. Mitsumoto)
(3) Design study of a superconducting spoke cavity of the high b section for 1 ampere class deuteron linear accelerator (H. Okuno)

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