

**Secondary Beam Course for the Medical Use at HIMAC,** Y. FUTAMI, M. HANAGASAKI, Y. ISHIKAWA, T. KANAI, M. KANAZAWA, A. KITAGAWA, S. KOUDA, N. MATSUFUJI, T. MURAKAMI, T. NISHINO, K. NODA, M. SUDA, T. TOMITANI, M. TORIKOSHI, H. YAMASHITA, NIRS - Secondary beam course has been constructed in HIMAC to use for the medical purposes. In the cancer treatment with the heavy ion, the range estimation is essentially important. In the current treatment, X-ray CT number is used for this estimation. If the beam of the positron emitters can be utilised, we have possibility to measure the range in the patient body by use of the positron camera or PET instead of the calicuration. To provide the positron emitter beam for medical use, the beam course must be operated easily. We have developed an automatic beam tuning system, which will adjust the beam course easily and quickly for the specific secondary beam. We have also required the beam intensity to make possible to use for cancer treatment of small volume like  $125 \text{ cm}^3$ . In this paper we will present the constructed beam course and the results of its beam test. Further, we will also present the treatment system, which is now under consideration for this secondary beam course.