ABSTRACT OF THE DISCLOSURE

PARTICLE BEAM IRRADIATION SYSTEM AND CHARGED PARTICLE BEAM CORRECTION METHOD

Provided is a particle beam irradiation system capable of enhancing the beam utilization efficiency without deteriorating the uniformity of the irradiation dose. A particle beam irradiation system, comprising a synchrotron in which an ion beam is accelerated and from which the ion beam is then extracted and an irradiation device for irradiating a target volume with the ion beam extracted from the synchrotron and performing one-unit irradiation multiple times, is equipped with: cumulative beam charge quantity measurement means which measures a cumulative beam charge quantity (Qmeas) in the synchrotron; target current setting means which sets a target beam current value (Ifb) for beam current extracted from the synchrotron based on the cumulative beam charge quantity (Qmeas) measured by the cumulative beam charge quantity measurement means; and extraction beam current correction control means which controls the beam current based on the target value (Ifb) of the extraction beam current determined by the target current setting means.

Fig. 1