

# FFAG 2007

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## Hadron Cancer Therapy Complex Using Non-Scaling FFAG Design

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Non-scaling FFAG rings for cancer hadron therapy offer reduced physical aperture and large dynamic aperture as compared with scaling FFAGs. We consider a system of three non-scaling FFAG rings for cancer therapy with 250 MeV protons and 400 MeV/u carbon ions. Hadrons are accelerated in a common RFQ and linear accelerator, and injected into the FFAG rings at  $v/c=0.1294$ . H<sup>+</sup> and C<sup>6+</sup> ions are accelerated in the two smaller/larger rings to 31 and 250 MeV/68.8 and 400 MeV/u kinetic energy, respectively. The lattices consist of doublet cells with a straight section for rf cavities. The frequency modulated rf system operates at frequencies between about 8 and 25 MHz.

**Auteur principal:** Dr KEIL, Eberhard (CERN)

**Co-auteurs:** Dr SESSLER, Andrew (LBNL); Dr TRBOJEVIC, Dejan (BNL)

**Orateur:** Dr KEIL, Eberhard (CERN)

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