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Design and test of C-band linac prototypes for electron flash radiotherapy

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The Flash Therapy is a revolution in the cancer cure, since it spares healthy tissue from the damage of the ionization radiations without decreasing its effectiveness in the tumor control. To allow the implementation of the FLASH therapy concept into actual clinical use and treat deep tumors, Very High Electron Energy (VHEE) should be achieved in range of 50-150 MeV. In the framework of VHEE project carried out at Sapienza University, in collaboration with INFN, we investigate the main issues in the design of a compact C band (5.712 GHz) electron linac for FLASH Radiotherapy. In this paper we describe the design strategy,
the electromagnetic properties and the first prototype of the RF structure to be tested at Sapienza University.

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Footnotes

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