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## Development of an ultrahigh dose rate radiation platform for X-ray FLASH radiotherapy research

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An ultrahigh dose rate (UHDR) MV-level X-ray radiation platform for FLASH radiotherapy (RT) research based on a normal conducting linear accelerator is presented in this work. A S-band backward traveling-wave linear accelerator powered by a commercial klystron produces electron beams with 11 MeV energy, 300 mA pulse current, and 2.6 mA mean current at 0.88% beam duty ratio. The radiation platform generates X-ray by bremsstrahlung. Flattening filters and collimators are included to produce a 4 cm × 3 cm field with flatted profile dose distribution. The measured dose rate was 129 Gy/s and the flatness was 14% after flattening. The UHDR X-ray platform now is used for FLASH preclinical animal research.

### Funding Agency

### Footnotes

### I have read and accept the Privacy Policy Statement

Yes

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