Title (en)

X-RAY SOURCES USING LINEAR ACCUMULATION

Title (de)

RÖNTGENQUELLEN MIT LINEARER AKKUMULATION

Title (fr)

SOURCES DE RAYONS X UTILISANT L'ACCUMULATION LINÉAIRE

Publication

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Application

EP 16200793 A 20140919

Priority

- US 201361880151 P 20130919
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- US 201462008856 P 20140606
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- US 2014056688 W 20140919

Abstract (en)

This application discloses a compact source for high brightness x-ray generation. Higher brightness is achieved through electron beam bombardment of multiple regions aligned with each other to achieve a linear accumulation of x-rays. This is achieved by aligning discrete x-ray emitters, or through use of novel x-ray targets comprising a number of microstructures of x-ray generating materials fabricated in close thermal contact with a substrate with high thermal conductivity. This allows heat to be more efficiently drawn out of the x-ray generating material, and allows bombardment of this material with higher electron density and/or higher energy electrons, leading to greater x-ray brightness. The orientation of the microstructures allows the use of an on-axis collection angle, allowing accumulation of x-rays from several microstructures to be aligned, appearing to have a single origin, also known as "zero-angle" x-ray emission.

IPC 8 full level

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CPC (source: EP US)

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