

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
EP 3168856 B1 20190703 (EN)

Application
EP 16200793 A 20140919

Priority

- US 201361880151 P 20130919
- US 201361894073 P 20131022
- US 201461931519 P 20140124
- US 201462008856 P 20140606
- US 201414465816 A 20140821
- EP 14868433 A 20140919
- US 2014056688 W 20140919

Abstract (en)
[origin: WO2015084466A2] 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
H01J 35/08 (2006.01)

CPC (source: EP US)
H01J 35/105 (2013.01 - EP US); **H01J 2235/084** (2013.01 - EP); **H01J 2235/086** (2013.01 - EP)

Cited by
CN107887243A; WO2022126071A1; US11686692B2; US11992350B2; US10854348B2; US11885755B2; WO2022180401A1

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