

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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DOCDB simple family (publication)  
**WO 2015084466 A2 20150611; WO 2015084466 A3 20150730**; CN 105556637 A 20160504; CN 105556637 B 20191210; EP 3047501 A2 20160727; EP 3047501 A4 20170621; EP 3168856 A2 20170517; EP 3168856 A3 20170823; EP 3168856 B1 20190703; JP 2016537797 A 20161201; JP 2019012695 A 20190124; JP 6659025 B2 20200304

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**US 2014056688 W 20140919**; CN 201480051973 A 20140919; EP 14868433 A 20140919; EP 16200793 A 20140919; JP 2016544039 A 20140919; JP 2018179789 A 20180926