

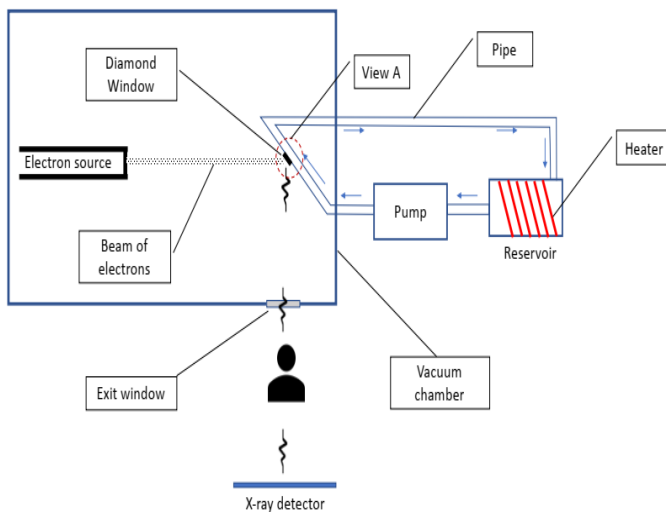
INSTRUMENT FOR GENERATING X-RAY BEAM FROM LIQUID TARGET



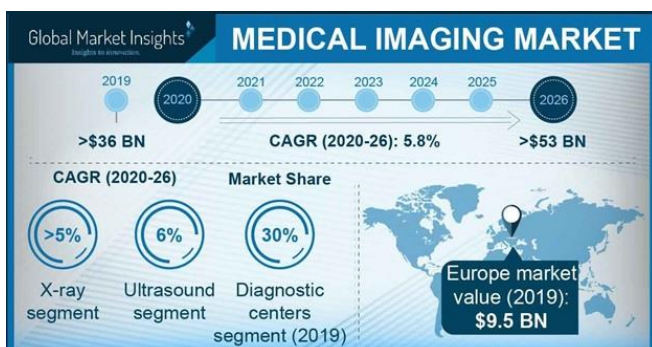
INVENTION

An instrument for generating x-ray beam from a liquid target is proposed such that:

- The problem of target damage due to overheating is significantly reduced. This also extends the lifetime of x-ray sources.
- Improvement of imaging quality because of using a material with high Z-number such as Lead Bismuth Eutectic. This represents a 12% increase in x-ray generation compared to the common tungsten target.
- Improving the imaging quality through smaller focal spot which directly impact the imaging resolution.
- Possibility to generate x-rays at significantly higher intensity which leads to improvement of many aspects such as high resolution and less imaging time.



MARKET SIZE AND GROWTH



Source: Fortune Business Insights, titled "Medical Imaging / Diagnostic Imaging Market: Global Market Analysis, Insights and Forecasts, 2018-2025,"

APPLICATIONS

- Medical x-ray sources (mammography, computed tomography, fluoroscopy, angiography, radiography)
- Industrial x-ray sources (borderline x-ray inspection, micro-computed tomography)

ADVANTAGES

The invention will significantly improve the imaging resolution and/or speed of current state-of-the-art x-ray sources such as CT and micro-CT scanners.

PROJECT STATUS

Computational fluid dynamic simulation was performed to verify the applicability of the invention.

LOOKING FOR DEVELOPMENT PARTNER

KFUPM is interested in seeking market feedback from industry, licensing the technology to a company to commercialize it and/or partner with a company for development of this instrument.

PATENT PROTECTION

A US patent application [16742472](#) covering the design of x-ray instrument is filed. The IP is owned by King Fahd University of Petroleum & Minerals (KFUPM).

ABOUT KFUPM

KFUPM was established in year 1963 and located in Dhahran city of Saudi Arabia. KFUPM currently ranks at 163 in QS World University Rankings 2021. KFUPM's Innovation & Technology Transfer office strives for taking innovation from lab to marketplace.

For further information please contact
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