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Development of a Portable Mobile X-ray System with Carbon Nanotube (CNT) Technology for Improved Diagnostic Imaging in ICU Settings

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We are developing an integrated mobile X-ray system using carbon nanotube (CNT) technology to overcome the limitations of traditional 2D mobile chest radiography. By incorporating a CNT source array with electronics into a commercial cart, we aim to enable tomosynthesis (limited-angle tomography), providing quasi-3D imaging to improve visualization and diagnostic accuracy. This system is designed specifically for ICU patients who are too sick to be transported to radiology, who require daily chest radiographs to monitor pneumonia and assist with the placement of medical devices. The goal is to create a portable, scalable, and high-performance X-ray system that enhances accessibility to quality diagnostic imaging in critical care environments.

Keyword-1

x-ray

Keyword-2

radiology

Keyword-3

carbon nanotube

Author: LYDA, Gavin

Co-authors: Dr INSCOE, Christina; Dr ZHOU, Otto

Presenter: LYDA, Gavin

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