

## 3D Printed Multi-Modal Phantom Using Computed Tomography and 3D X-Ray Images

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**Abstract :** The imaging phantom is utilized for the verification, evaluation and tuning of the medical imaging device and system. Although it could be costly, 3D printing is an ideal technique for a rapid, customized, multi-modal phantom making. In this article, we propose the multi-modal phantom using 3D printing. First of all, the Dicom images for were measured by CT (Computed Tomography) and 3D X-ray systems (PET/CT and Angio X-ray system of Siemens) and then were analyzed. Finally, the 3D modeling was processed using Dicom images. The 3D printed phantom was scanned by PET/CT and MRI systems and then evaluated.

**Keywords :** imaging phantom, MRI (Magnetic Resonance Imaging), PET / CT (Positron Emission Tomography / Computed Tomography), 3D printing

**Conference Title :** ICBST 2017 : International Conference on BioSensing Technology

**Conference Location :** Zurich, Switzerland

**Conference Dates :** January 13-14, 2017