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(54) **DIMENSIONAL REFERENCE FOR TOMOGRAPHY**

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- (57) **ABSTRACT**

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A dimensional reference system for tomography, including X-ray computed tomography and MRI tomography. The system includes a dimensional reference apparatus that comprises plurality of spheres composed of a material having an X-ray absorption property between approximately +500 Hounsfield units and +1200 Hounsfield units. The spheres are spaced apart at a known distance by support structure/spacer unit that has an X-ray absorption property between approximately -100 Hounsfield units and +400 Hounsfield units. After an image that incorporates the dimensional reference apparatus and a measurement subject has been reconstructed, the dimensional reference apparatus provides for measurement of the resultant image voxels in three dimensions. Because solid structural elements such as plastic or glass spheres may not be visible in an MRI, an MRI implementation of the apparatus may be disposed in a fluid-tight enclosure along with water, a contrast-enhancing agent and ethanol.

