

## ***ABSTRACT***

*This study aims to analyze uniformity of iodine material density (MD) for various concentrations on dual energy computed tomography (DECT). The phantom was made from Polyester resin mixed with Methyl Ethyl Ketone Peroxide (MEKP) as catalyst with a ratio of 300:1. The phantom has a diameter of 16 cm, thick of 5 cm, and having 5 holes with a diameter of 1.5 cm. Iodine with concentrations of 10, 20, 30, 40, and 50 mg/ml were positioned at each hole of the phantom. The phantom was scanned using the GE Revolution Apex (fast kilovoltage switching) with a voltage of 80/140 kV. The image was reconstructed and displayed as iodine material density. To obtain uniformity, the region of interest (ROI) was placed in the center of the iodine object and the edges of the iodine object at 3, 6, 9, and 12 o'clock.. It is found that the uniformities are from  $0,39 \pm 0,02$  to  $0,70 \pm 0,05$  mg/ml. It can be concluded that the uniformity of the image for all densities is within 1 mg/ml and is not influenced by the density of the material.*

**Keywords:** *Uniformity, Dual Energy CT, Iodine Material*