

The focus of this project is on utilizing a multiple X-ray source cone beam Computed Tomography (ms-CBCT) imaging device in conjunction with image-guided radiation therapy (IGRT), an important technique in cancer treatment. While this imaging method has previously demonstrated improvement in image quality for dental and head imaging, its specific application within IGRT remains unexplored. Initial experimental findings suggest that ms-CBCT has potential to reduce scatter, improve numerical measurements, and decrease image artifacts for IGRT systems. Further endeavors in this project will aim to generate a comprehensive ms-CBCT image to fully showcase its superior imaging quality for IGRT.