

Abstract

Virtual Simulation QC in Radiation Oncology

Modern day treatment planning systems utilize most, if not all, of the information from either a dedicated or shared CT. Treatment plans are being developed to avoid critical structures while maximizing the dose delivered to the tumor. These requirements mandate that the CT equipment used meet the rigid specifications and maintain those over the period of use. These are

- a. Geometric accuracy & Reproducibility
- b. Low contrast detectability or sensitivity
- c. Linearity of the CT numbers (they are not really linear over the whole range, do you mean consistency?)
- d. Signal to noise ratio consideration.
- e. Laser alignment issues.
- f. Effect of reconstruction algorithms.

The effect of each one of these on the final treatment and methods to monitor them by having an effective simplified QC program will be presented.