Abstract:
Low wattage Helium-Neon laser film scanners are becoming very popular for performing routine analysis of radiation therapy QC films. Besides being easy to use, these scanners can be accurately calibrated in the clinical environment, resolve optical densities up to 3.5, and scan a full 14 x 17 inch (35 x 43 cm) QC film in a few seconds. However, effective use of this type of technology does require the user to have an understanding the operation of the scanner when a film is being scanned. To demonstrate this, a typical radiation therapy flatness QC film was marked to indicate film orientation and then scanned four times with a 90 degree film rotation between scans. The data was processed and analyzed using a commercially available program specifically designed to analyze radiation therapy QC films. The results of this analysis clearly indicate the mechanics of the film scanner, specifically film orientation and direction of the laser light during the scanning process, are critical factors that must be considered when using this type of technology.