The Accuracy of AlignRT Guided Set-up for Whole Breast and Chestwall Irradiation

Innovation/Impact: It has long been known that set-up guided by tattoos and skin marks gives non-negligible daily variance due to changes in patient shape and position, as well as movement of the skin marks. AlignRT provides a method to reduce daily variance without the use of ionizing radiation. To the best of our knowledge this work represents the first examination of the use of AlignRT for whole breast / chestwall set-ups.

**Figure 1:** A representative example of the AlignRT region of interest (ROI) used to set-up the breast / chestwall patients. The ROI extends medially and laterally far enough to determine roll corrections. The ROI either incorporates a small amount of breast tissue (or extends superior-inferior far enough to include changes in depth) to localize the ROI in the superior-inferior dimension.

**Figure 2:** The blue bars at the base of the plots show number of ports acquired for each case. The red bars on top of the blue bars show the number of ports rejected for each case. **(Left)** AlignRT set-up **(Right)** Non-AlignRT set-up. **N.B.** Additional ports were acquired over the first few fractions of each AlignRT case to verify set-up using the AlignRT, which skews the total number of ports acquired for AlignRT cases versus non-AlignRT cases.