

**AbstractID: 1314 Title: Clinical data preparatory to treating on a TomoTherapy, Inc. Hi\*Art II accelerator**

The TomoTherapy® accelerator presents the on site physicist with a new set of beam data measurement problems quite different to those encountered for conventional accelerators. To make the process as simple as possible, the beam data for our accelerator (S/N 002) was accumulated using physics measuring instruments normally contained in a radiation therapy department. The treatment beam passes through a pair of independantly controlled jaws which define the length of the treatment field between 0.5 and 5.0 cm at the isocentre along the longitudinal dimension of the couch (IEC y-axis). With the use of a 3D water tank, the jaw settings were adjusted so that the source of the x-rays was central to the opening of the jaws. The tank also enabled profile scans in both the x- and y-axes as well as PDD scans, all for a variety of field sizes, in air as well as in water. These data enabled the derivation of PSF's and TMR's for the treatment beam. Absolute outputs are determined using an ADCL calibrated Farmer chamber (NE2571) for a 5 x 5 cm beam at chamber depths of 5 and 15 cm in a solid water phantom set at 85 cm SSD (isocenter).