

Status of Airix Alignment and High Current Electron Beam Diagnostics, J. BARDY, C. BONNAFOND, A. DEVIN, E. MERLE, D. VILLATE, CEA-CESTA - The AIRIX Induction accelerator (16-20 MeV, 3.5 kA, 60 ns) has been designed at CESTA for Flash X-ray Radiography application. The PIVAIR test stand (4-8 MeV, 3.5 kA, 60 ns) is now being operated to study, in particular, alignment techniques and electron beam diagnostics. We present here the Hydrostatic Leveling System (HLS)* and the Wire Positioning System (WPS)* developed to ensure the whole accelerator alignment accuracy. We describe the optical and destructive diagnostics of electron beam which use a CCD gated camera. Among these diagnostics, we present the emittance measurements with the pepper-pot or the three gradient method. We also present the beam size and position measurements with Cerenkov or OTR (Optical Transition Radiation) radiators. An electrical and non destructive Beam Position Monitor (BPM), using B θ loops, has been developed and is discussed. Correlation has been experimentally studied between optical and electrical beam position diagnostics.

* Studied by ESRF and developed by FOGALE company - France.