

**Acceleration and Bunching in a 6 MeV X band LINAC**, J. GONICHON, D. TRONC, GE Medical Systems - We present detailed beam dynamic simulations in a compact X band accelerator. The accelerator must be capable of delivering an electron beam of 0.5 MW peak at 6 MeV, in order to produce an X ray dose of 10 Gy/mn at 80 cm for medical applications. The use of a PARMELA like code (DYPAL, developed at GE Medical Systems) allowed us to investigate radial and longitudinal beam dynamics. Important aspects of the calculation were to optimize the bunching, while controlling the radial behaviour of the beam. This leads to reduced X ray leakage along the section and high transmitted current ratio from gun to target.