

**High Current and High Energy AIRIX Induction Accelerator Development,** Ph. ANTHOUARD, J. BARDY, C. BONNAFOND, Ph. DELSART, A. DEVIN, P. EYL, Ph. EYHARTS, D. GUILHEM J. LAUNSPACH, J. DE MASCUREAU, E. MERLE\*, J.C. PICON, A. ROQUES, M. THEVENOT, D. VILLATE, CEA/CESTA BP n°2 33114 Le Barp France - Development of AIRIX induction accelerator (16-20 MeV, 3,5 kA, 60 ns) is now in the PIVAIR prototype phase which is a validation step for AIRIX at 8 MeV. PIVAIR installation designed at CESTA, comprises at present an injector (4 MeV; 3.5 kA; 60 ns) and 8 induction cells (250 kV per cell) supplied by specific high voltage generators. In this experiment different cell technologies have been tested and two of them have shown a good electric response on resistive load. Technologies and results are presented. We have tested, with an electron beam, four cells of each type. Time resolved spectrum analysis has demonstrated that the increment of beam energy corresponds to the supplied high voltage, although a widening of the spectrum appeared. The optimisation of beam transport will be given as well as the beginning of the BBU instabilities studies.

\* CEA Vaujours-Moronvilliers, 51490 Pontfaverger, France