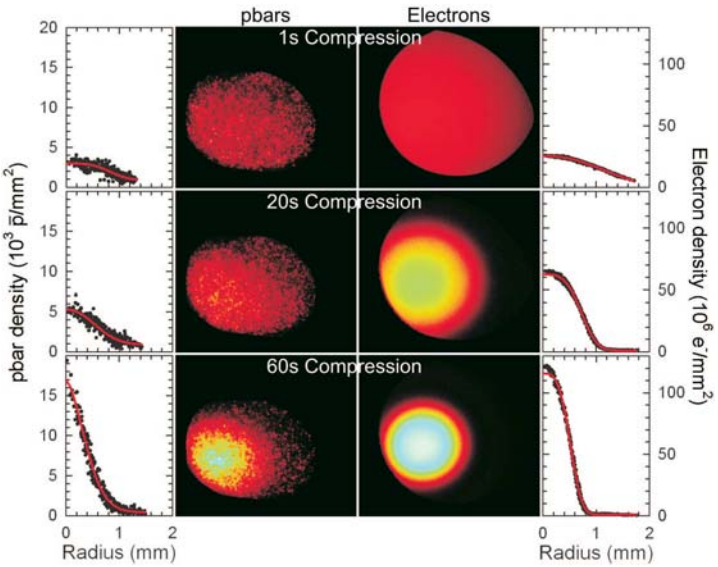
First attempts at antihydrogen trapping in ALPHA

Joel Fajans

Physics Dept, U.C. Berkeley, Berkeley CA 94720 USA

On behalf of the ALPHA collaboration

The ALPHA experiment is designed to trap antihydrogen atoms in a minimum-B configuration. The antihydrogen is produced by merging plasmas of positrons and antiprotons in a cryogenic Penning trap. I will describe the design and operation of the ALPHA apparatus, with emphasis on the plasma parameters and manipulations most likely to produce trappable antihydrogen, including recent successful attempts to compress the antiprotons. I will also discuss the first attempts to detect trapped antihydrogen.



Antiproton Compression Sequence

This work was supported by CNPq, FINEP (Brazil), ISF (Israel), MEXT (Japan), FNU (Denmark), NSERC, NRC/TRIUMF (Canada), DOE, NSF (USA), EPSRC and the Leverhulme Trust (UK) and HELEN/ALFA-EC.