

A Barrier Bucket Experiment for Accumulating De-Bunched Beam in the AGS*, J.M. BRENNAN, M.M. BLASKIEWICZ, AGS Dept., BNL, Upton, NY 11973 - Space charge in the bunched beam is a key factor in determining the maximum intensity that can be achieved in the AGS. The AGS is normally filled by four bunch-to-bucket transfers from the 1.5 GeV Booster. A barrier bucket in the AGS would allow accumulation of de-bunched beam by opening a gap in the coasting beam for repeated injections. The benefit would be an improvement of bunching factor by a factor of two and the possibility of more than four fills from the Booster. The new upgraded AGS rf cavity power amplifiers can provide the necessary high voltage waveform to produce the barrier bucket. An experiment is planned in the AGS to test this technique with high intensity protons.

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