



Brookhaven
National Laboratory

BNL-103990-2014-TECH

AGS.SN112;BNL-103990-2014-IR

Controlling Beam Dumping

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July 1978

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U.S. Department of Energy

USDOE Office of Science (SC)

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Date 7/12/78 Time 1200-1300 Experimenters J. GlennSubject Controlling Beam DumpingOBSERVATIONS AND CONCLUSIONResults

The H20 backleg windings were reconfigured to provide a $1/2 \lambda$ inside bump centered at I13. The beam was turned off 360 ms (~ 15 GeV/c) and the loss pattern noted. The bump turned on and raised to ~ 50 A without changing the loss pattern. Raising the current another 20A moved 80-90% of the losses in the ring to the I13 region.

Conclusion

- 1) A small change ($\sim 1/4$ cm) change in the location of an inside aperture completely can rearrange the loss pattern relative to the closed orbit of protons in the ring.
- 2) Small, low power bumps could be used to direct beam loss to a low penalty areas as necessary.