

## Coherence Damper Tests

E. Gill

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Collider Accelerator Department  
**Brookhaven National Laboratory**

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## Coherence Damper Tests

April 12, 1973

0630 - 0900

E. Gill & E. Raka

The vertical coherence damper system consists of a pair of cathode followers at the B-3 electrodes feeding a difference amplifier whose output is fed to a driver circuit located at B-10. The latter is coupled to a two turn coil about 7' long located in the straight section. The seven magnet species produces ~~an~~ <sup>an</sup>  $\approx \pi/4$  phase shift which is needed to damp the coherent betatron oscillations.

An overall damping rate of  $\approx 1.9 \times 10^3 / \gamma \text{ sec}^{-1}$  is available. Hence for a growth rate of  $230 \text{ sec}^{-1}$  at  $\gamma = 1.67$  (observed on 4/6) we have  $\approx 5$  times the minimum gain necessary for damping.

After making the feedback polarity correct complete suppression of the coherence was obtained up to the maximum available intensity of  $4.6 \times 10^{12}$  (the coherence threshold being around  $3.5 \times 10^{12}$ ). The remainder of the time was used to try and increase the machine intensity but with little success. At about 9am the linac developed troubles and the program was terminated.