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Effect of Interpulse Dwell and Peak Field History on Accelerated Beam Intensity

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AGS Studies ReportDate(s) Sunday, November 4, 1984 Time(s) 1100-1600Experimenter(s) R. Allard, K. Brown, J.W. GlennReported by K. BrownSubject(s) Effect of Inter-pulse Dwell and Peak Field History
on Accelerated Beam IntensityObservations and ConclusionsAbstract

The effect of the inter-pulse dwell on the accelerated beam intensity was measured and found not to be a critical parameter. By tuning the injection peaker, little change was seen in the beam intensity for any dwell time as far down as zero. No effect was seen in the beam intensity from the peak field history. It was found that zero dwell corresponds to 43 ms since the voltage in this interval does not rest at zero.

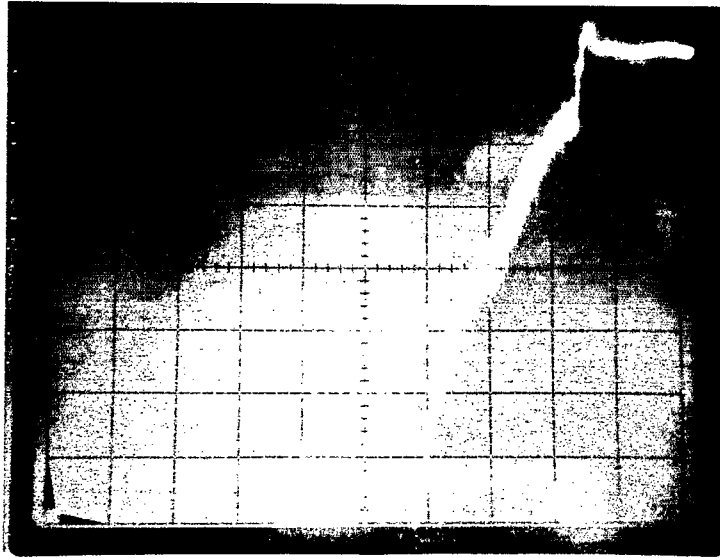
Method

Siemens was set up with a flattop which was varied to achieve different dwell times. The beam intensity (ICBM and 3CBM) was recorded with and without tuning the injection peaker (assuming that compensation for the remnant field is done by tuning the injection peaker). Then the beam intensity was recorded with varying the peak field with a constant dwell. Tuning the injection peaker was not necessary.

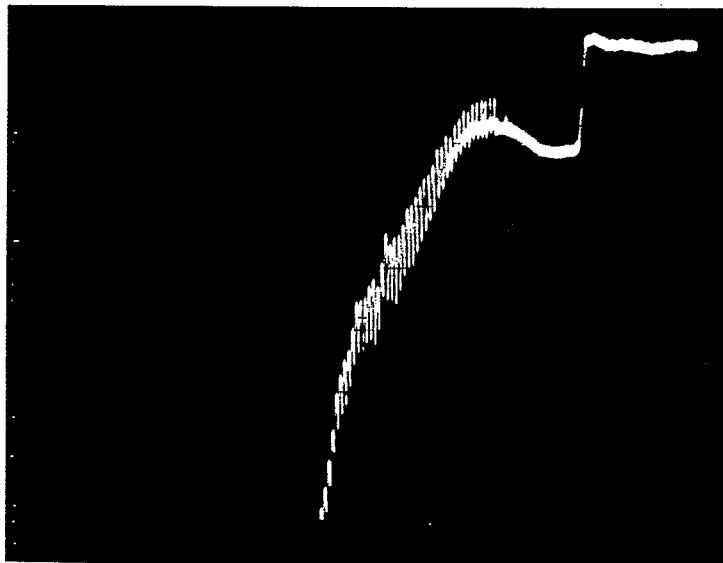
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MCR File

43 ms dwell (zero dwel), 20 ms/div.

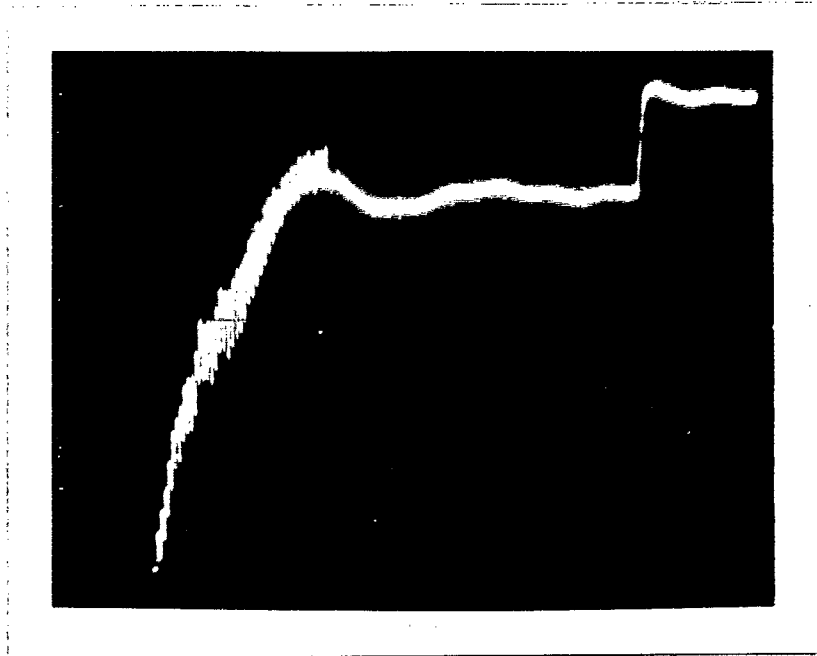
From H20 backleg.



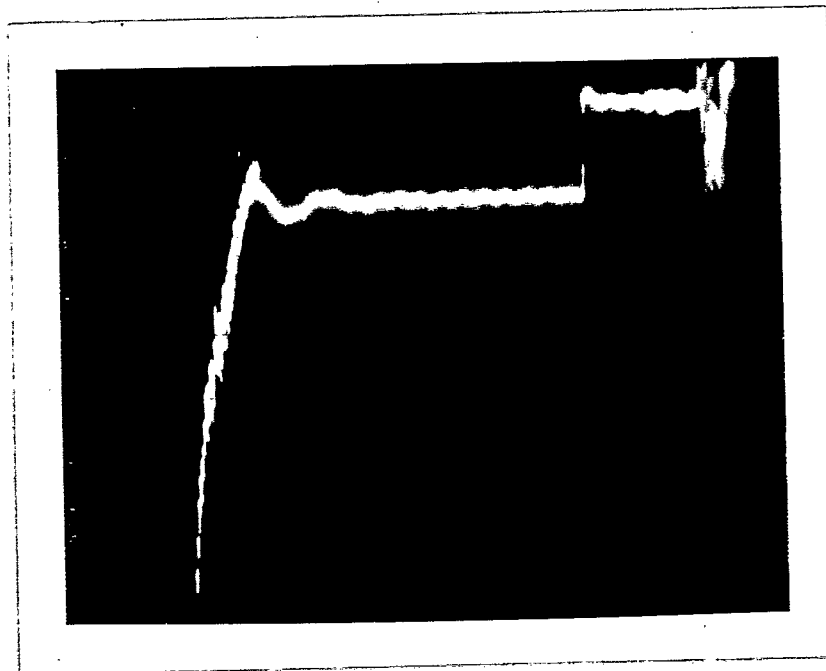
74 ms dwell, 20 ms/div.



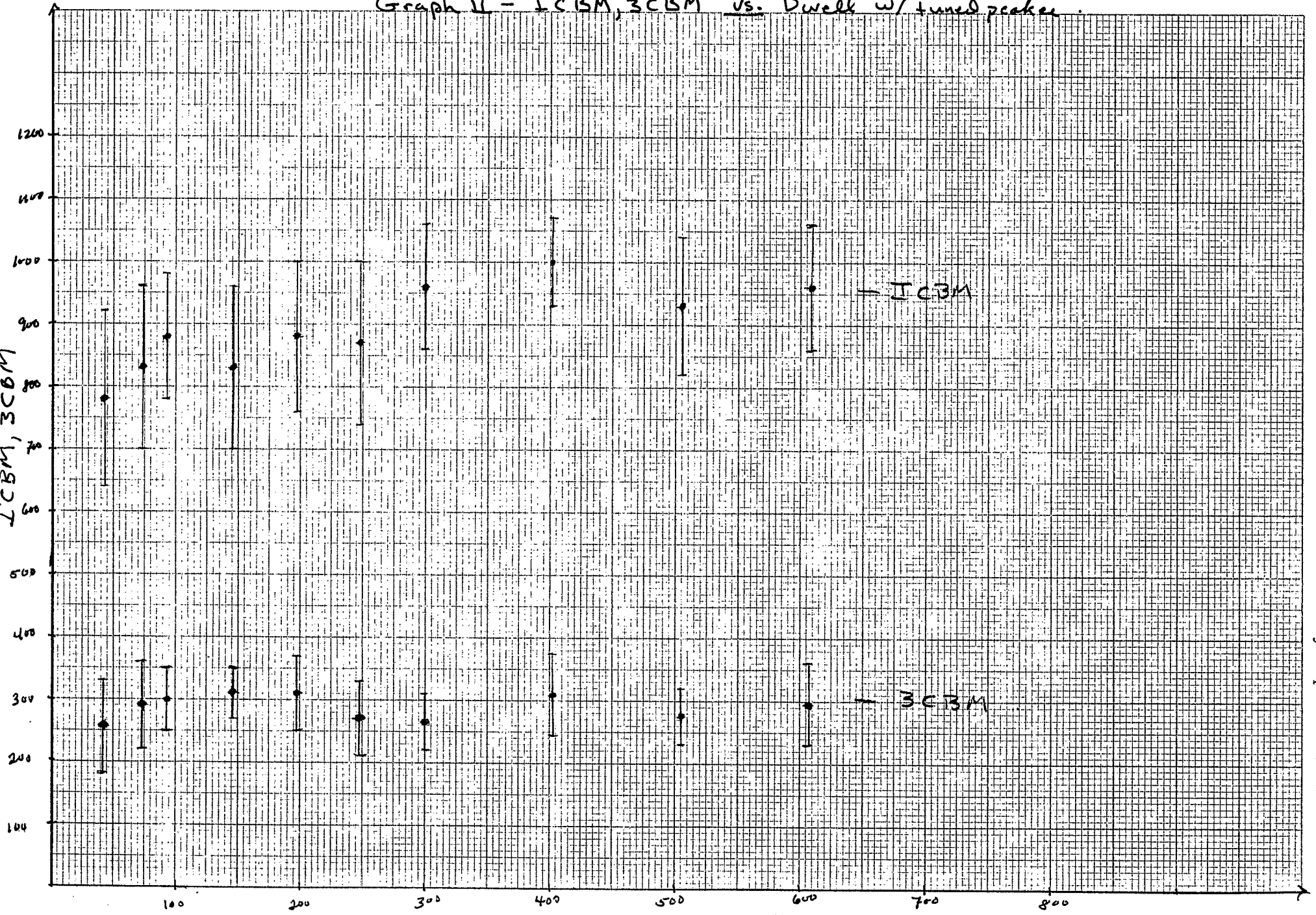
146 ms dwell, 20 ms/div.



300 ms dwell, 50 ms/div.

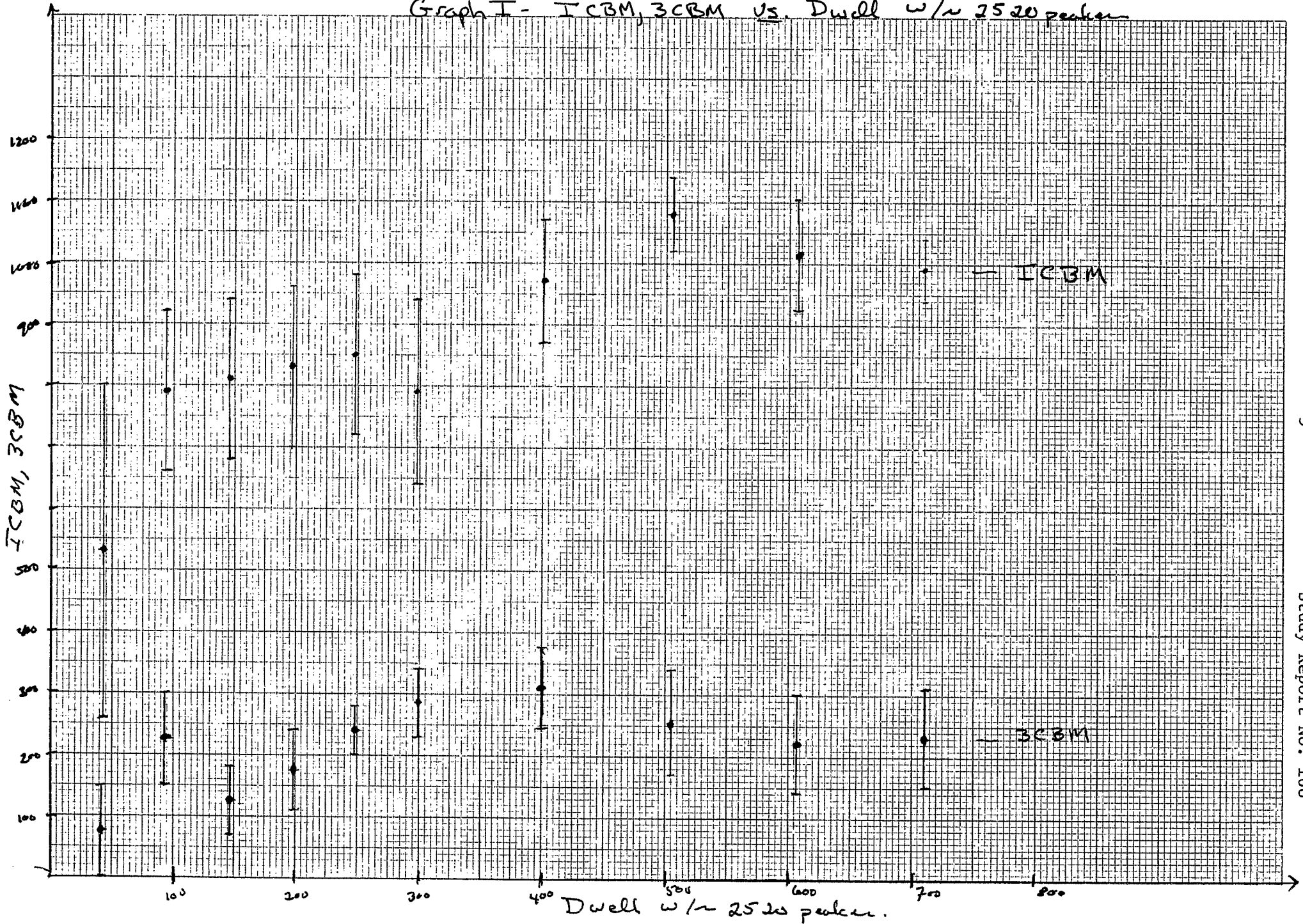


Graph II - ICBM, 3CBM vs. Dwell w/ tuned peaker.



Dwell w/ tuned peaker.

Graph I - ICBM, 3CBM vs. Dwell w/ ~ 2520 peaks



Graph III - ICBM, 3CBM vs. G.S. Cup

