This discussion assume that beam that is extracted within the 240 nsec time of the populated bucket is not an extinction event, events outside this are 'inter bunch' events [IBEs] and are to be eliminated.

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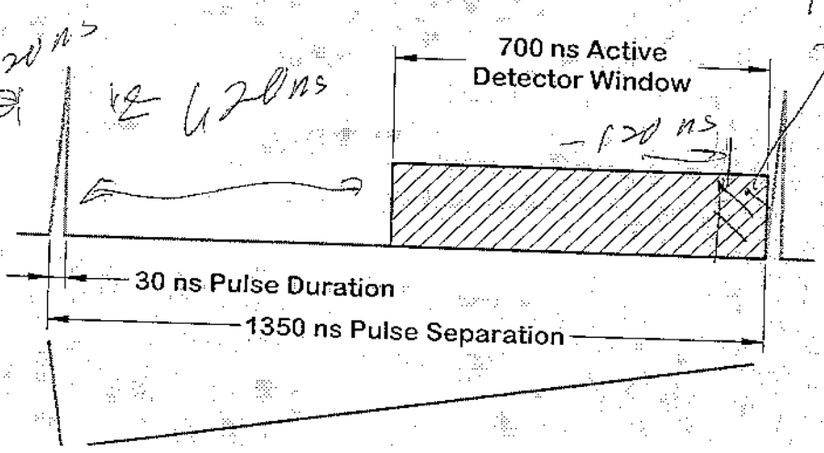

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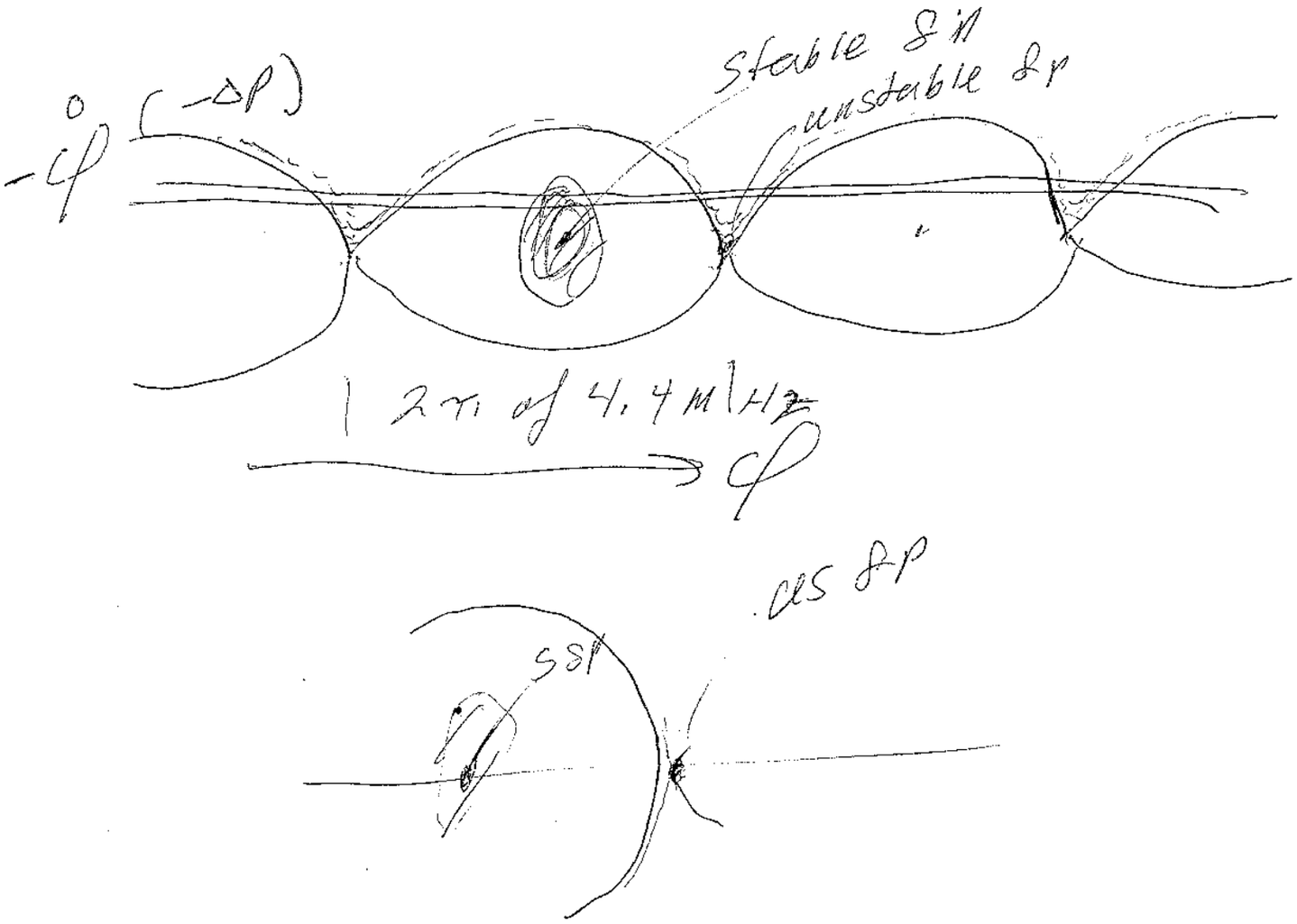
With this it follows that all IBE's are from protons outside all buckets and drifting around the periphery of the buckets.or in adjacent buckets. If outside, they would probably be swept out soon or not get to the resonance for extraction. A few may be trapped in adjacent buckets while the beam is decelerated into the resonance. The magnitude of the problem can be estimated by populating the 'out of bucket' area and observing how much beam is captured.



More of a problem are those protons that get into adjacent buckets..There are two approaches to this problem: keep them out and sweep them out w/an AC dipole if they get in.

Measuring how much gets into adjacent buckets in what part of the cycle would be a start to preventing the problem. This is an 'in ring' test and only needs broad-range electronics to see parts in 10^-4, or outside, a sensitive charge monitor in the FEB to look at various bunches.

As far as the sweeper of inter bunch beam to prevent IBE's, work with the present AC dipole would give much information as to elimination rate with various FT tune, chrom setups.

Off the 'extenction' subject, the setup of SEB at ~8 GeV with good efficiency has not been accomplished. Even without H20 much can be done here, particularly with the added complication of extraction from within an RF bucket. Here a W line type dump with some intensity and structure instruments off the upstream end of the SEB [possibly where a spur to the new NASSA cave is put] would allow much to be learned to reduce the risk of major problems being found in '08.