Tune measurements using computer fit to perturbed orbit

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DISCLAIMER

Some time was made available by bubble chamber problems. Starting at ~ 11 am, I worked on a computer program to measure injection ν- values using a variation of a technique developed earlier. That system depends on curve fitting the orbit as influenced by a perturbation to a known form. Currently too many electrodes are missing, and the usual bump techniques are rather difficult at injection fields so this method is almost unuseable. The new version used only the #15 electrodes of which there are still 9. Orbit deformation is done by switching d.c. dipoles and taking two complete orbits with dipoles in two states. a version LOWHN does horizontal orbits and LOWVN does vertical. The programs work but the accuracy is poor (~±0.05 ν units). None the less — they show we are capturing in a region

$$\nu_H \sim 8.9, \quad \nu_V \sim 8.7$$

probably undesireable.