

# Tracking study of muon acceleration with FFAGs (follow-up 2), revised 2

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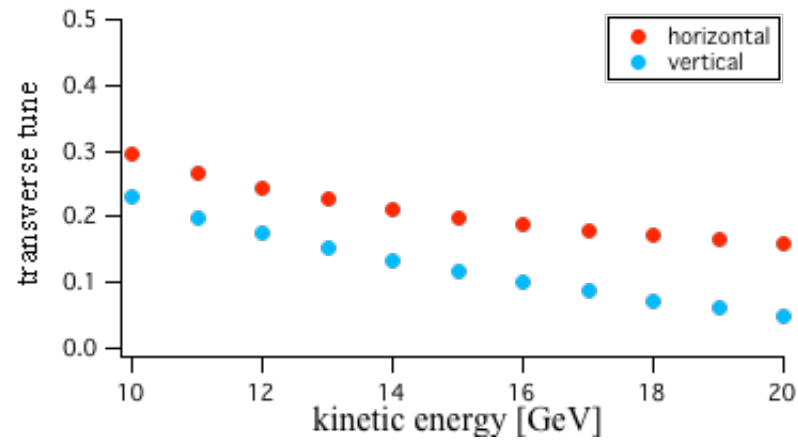
<http://hadron.kek.jp/~machida/doc/nufact/>

ffag/machida\_20051220.ppt & pdf

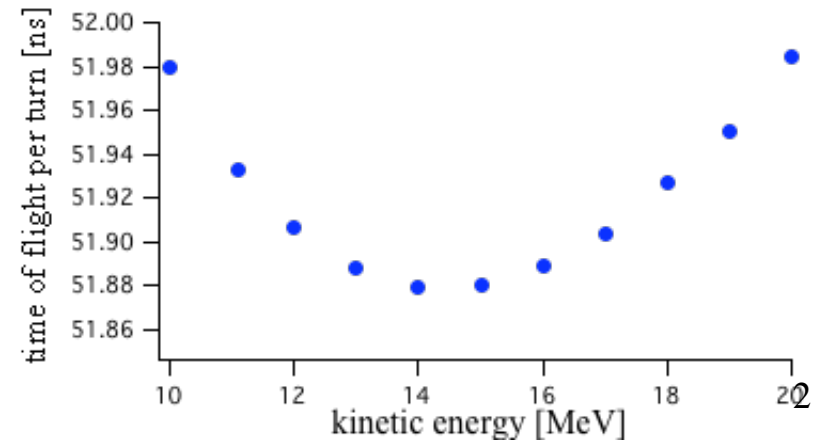
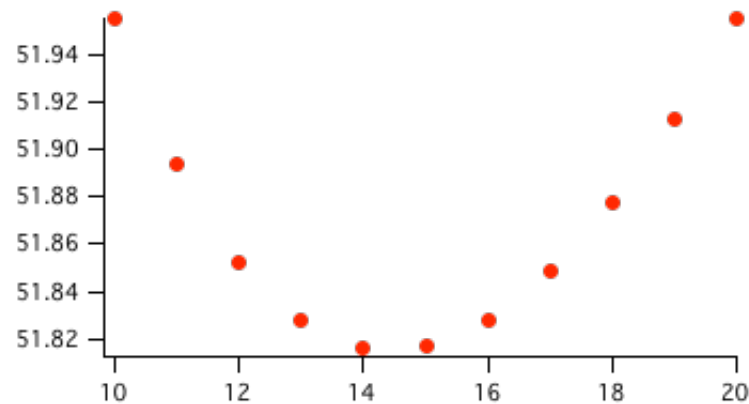
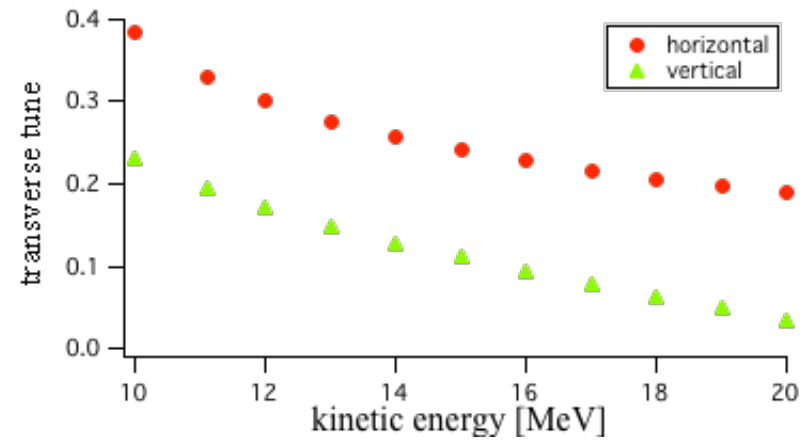
# Lattice with smaller $d\nu/dE$

Berg made a lattice with smaller  $d\nu/dE$

new lattice



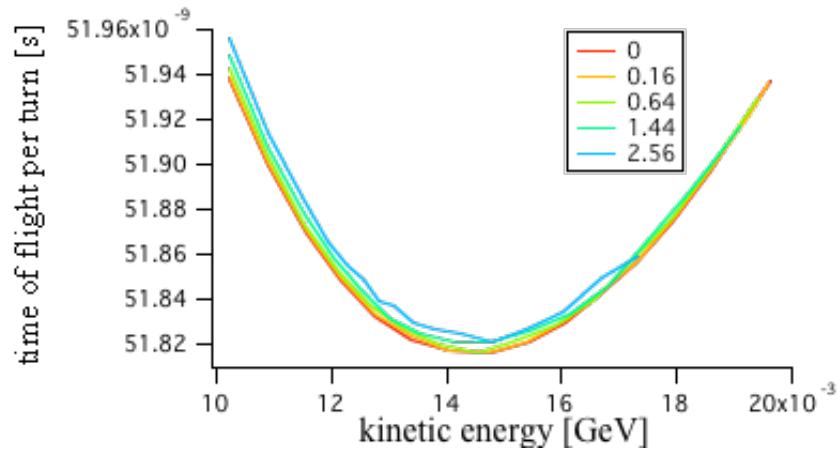
old lattice



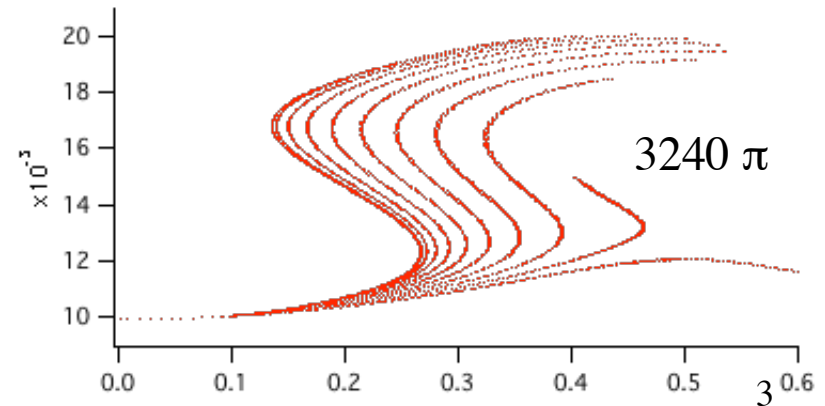
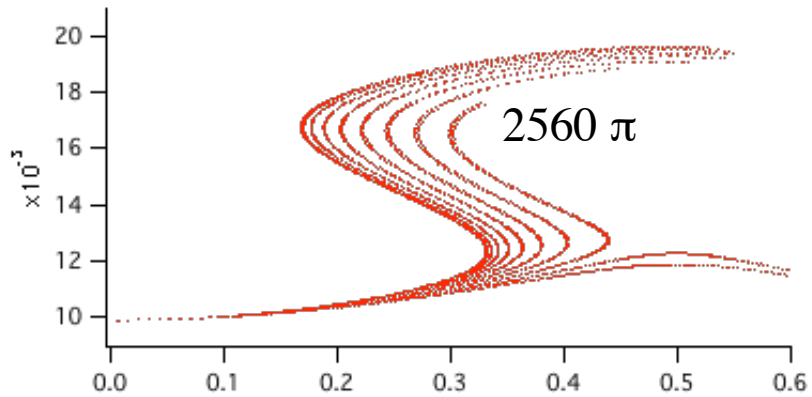
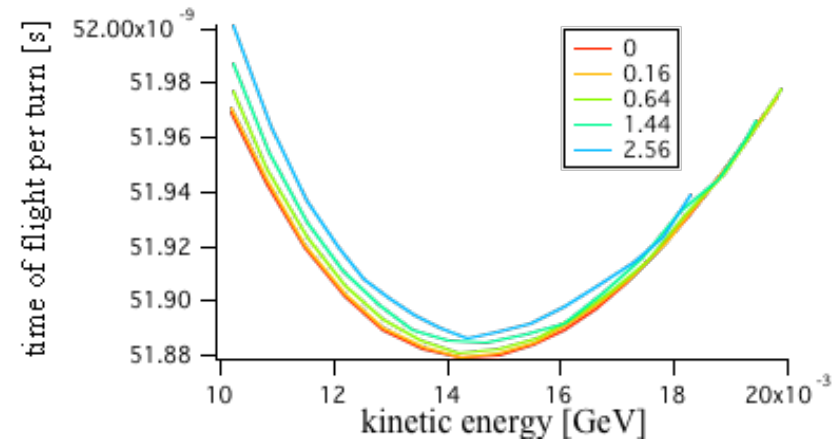
# Lattice with smaller $d\nu/dE$

(continued)

new lattice



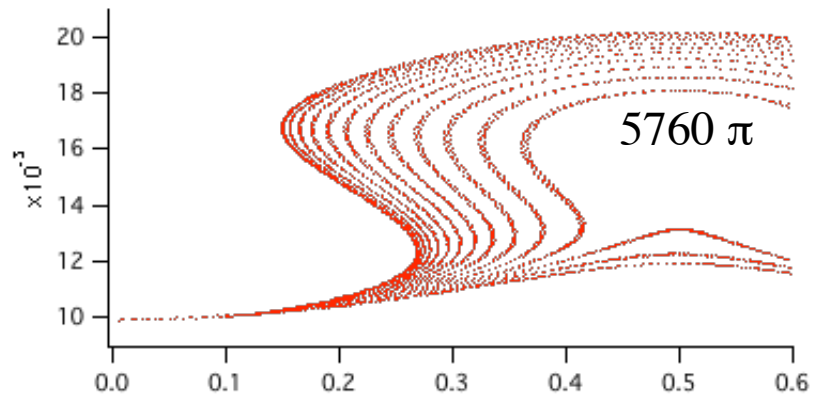
old lattice



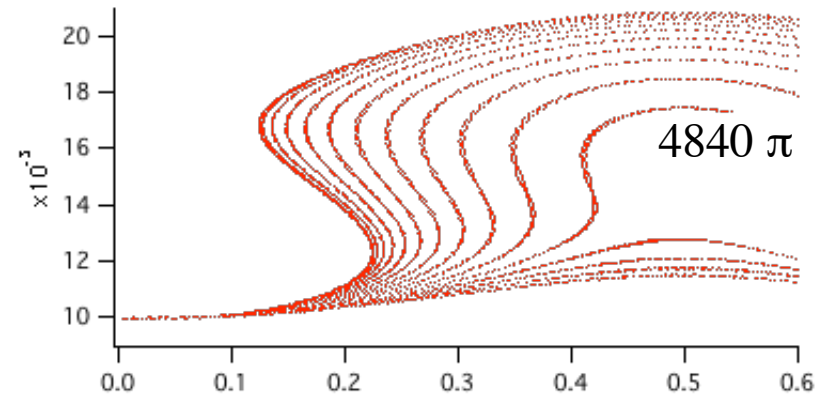
# Lattice with smaller $d\nu/dE$

(continued)

new lattice with same  $a(=1/12,$   
22.8 kV)



old lattice with higher voltage  
(=22.8 kV)



# Summary

- Lattice with smaller  $dv/dE$  gives smaller ToF difference as a function of transverse amplitude.
- Trajectories in longitudinal phase space becomes narrower, but transverse acceptance does not change.
- If we keep the same  $a$  parameter, (40% more RF voltage, 22.8 kV instead of 16.4 kV), acceptance is almost doubled.
- With *old* lattice, higher voltage (22.8 kV) gives larger acceptance almost as same as new lattice.