AC dipole in MADX thin-lens tracking module

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MADX code

In sequence

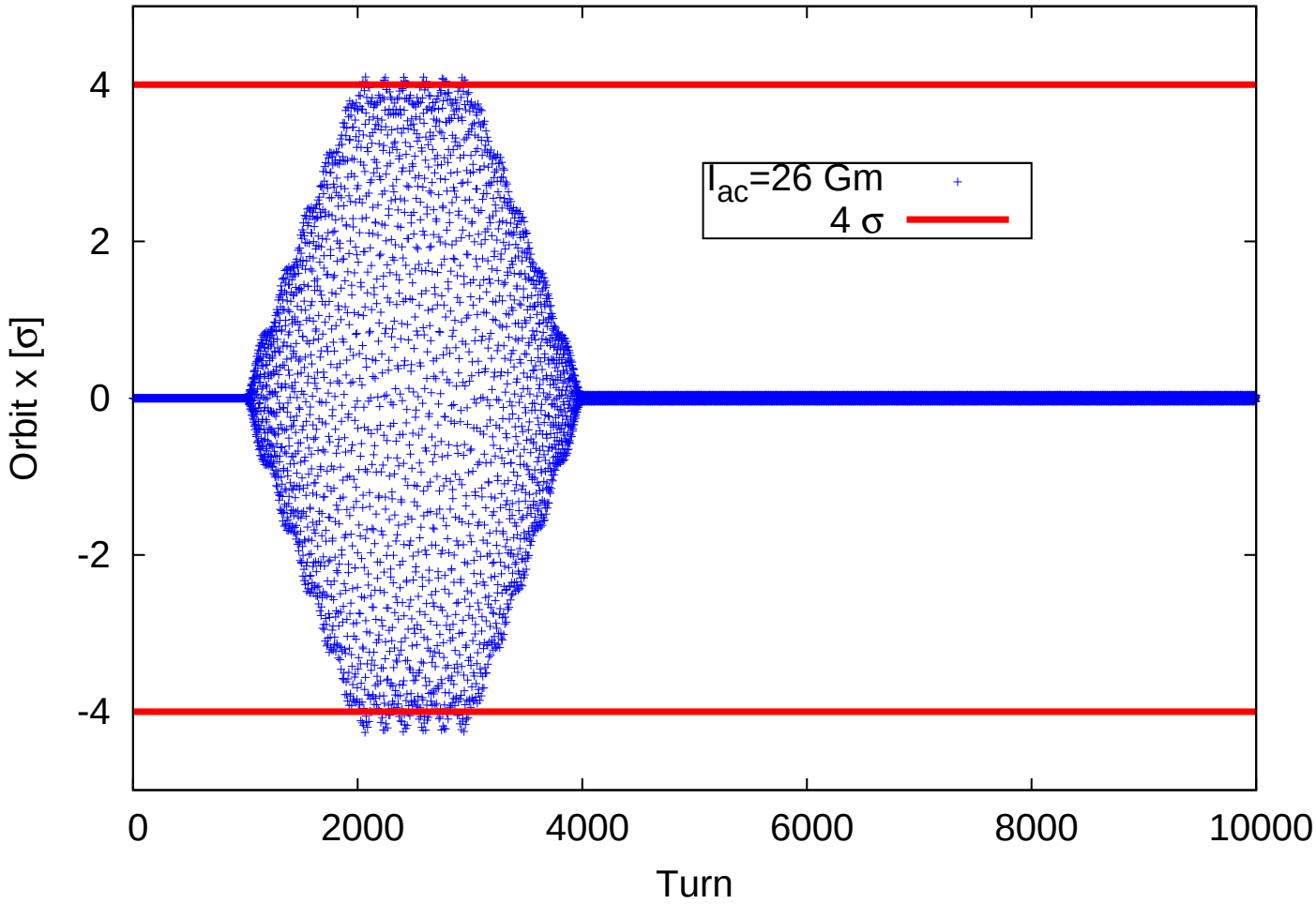
ac1: acdipole,l:= 0,volt:=26,phirf:= 0,omega:=0.305;

In the code

```
do itrack = 1, ktrack
px = track(2,itrack)+ vrf * sin(phirf + omega * turn)
track(2,itrack) = px
enddo
```

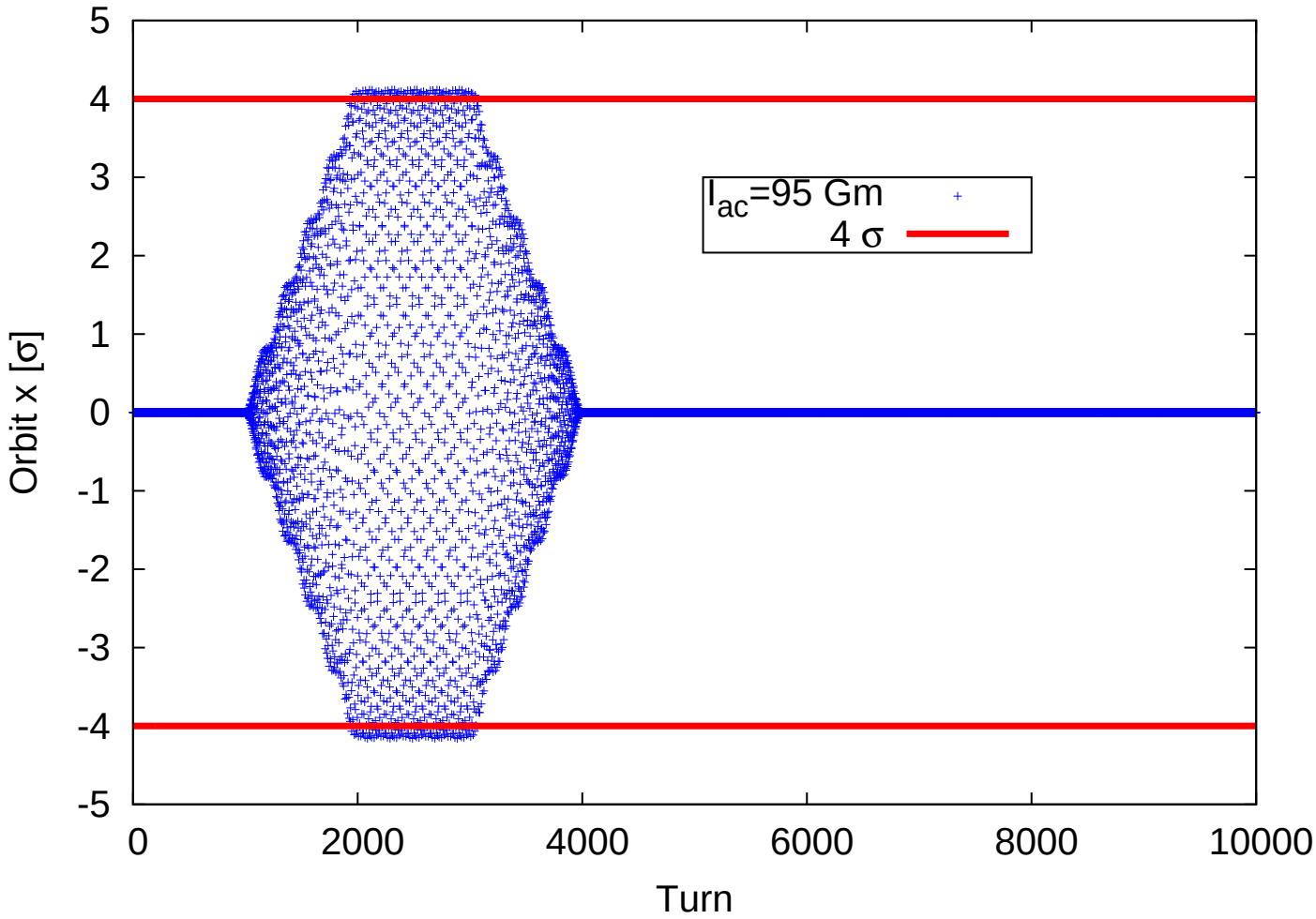
100 ms (1000 turns) ramp up, 100 ms flat-top, 100 ms ramp down

Check by tracking, 450 GeV, $\beta_{x,ac}$= 190 m



$$Q_{ac} = 0.305(3.4kHz), B * L = 26Gm$$

Check by tracking, 7 TeV



$$Q_{ac} = 0.305, B * L = 95 Gm, Q_x = 0.31$$

Work to do

- Finish input of ramping turns
- MADX official version
- MADX-SixTrack convertor