

Modes of operation and dynamic range

- Protons for pbar stacking and fixed target

Energy	8 to 120 GeV
Bunch RF	53 MHz
Bunch structure	84 bunches/batch, up to 6 batches however spaced
Bunch length (at 95%)	6 ns (8 GeV) 1.5 ns (150 GeV, after bunch rotation)
Intensity/bunch	5E9 to 130E9

- *Why is the minimum intensity 2.5E9 in the beam line BPM requirements ?*
- *Proton Driver would require a max intensity/bunch of 300E9*

- Protons to the Tevatron

- tuneup

Energy	8 to 150 GeV
Bunch RF	53 MHz
Bunch structure	30 to 84 uncoalesced bunches
Bunch length (at 95%)	6 ns (8 GeV) 2.5 ns (150 GeV)
Intensity/bunch	10E9 to 100E9

- shots

Energy	8 to 150 GeV
Bunch RF	53 MHz
Bunch structure	5-9 bunches, coalesced into one bunch at 150 GeV
Bunch length (at 95%)	6 ns (8 GeV) 2.5 ns (150 GeV uncoalesced) 9ns (150 GeV coalesced)
Intensity/bunch	30E9 to 100E9 (uncoalesced) 50E9 to 400E9 (coalesced)

- Antiprotons from Accumulator/RR

Energy	8 to 27 GeV
Bunch RF	2.5 MHz
Bunch structure	4 consecutive bunches
Bunch length (at 95%)	100-200 ns (8GeV) 40 ns (27 GeV)
Intensity/bunch	5E9 to 150E9

- *bunch length is almost a factor 2 larger when transfers occur from Accumulator in stacking lattice (up to 200 ns)*
- *Why is the minimum intensity 2.5E9 in the beam line BPM requirements ?*

- Antiprotons to the Tevatron

Energy	8 to 150 GeV
Bunch RF	53 MHz
Bunch structure	4 consecutive groups, spaced by 400 ns, of typically 5 (up to 9) 53 MHz bunches, coalesced into a single bunch at 150 GeV
Bunch length (at 95%)	8.5 ns (8 GeV) 3.5 ns (150 GeV uncoalesced) 10 ns (150 GeV coalesced)
Intensity/bunch	5E9(?) (uncoalesced) 10E9 to 150E9 (coalesced)

- *Why is the intensity range for coalesced beam 10E9 to 170E9 in the beam line BPM requirements ?*