

# Weak Focusing versus “Strong” Focusing

	Weak foc.	Strong foc.
Kinetic energy [MeV]	232.79	
Number of periods	14	14
Circumference [m]	263	300
Focusing parameter in bends, m	0.199	0
Tunes, $Q_x / Q_y$	1.229 / 0.456	2.32 / 0.31
Maximum beta-function, $\beta_x / \beta_y$ [m]	34 / 91.7	29.1 / 204
Dispersion	45.5	17.35
Maximum momentum deviation: $\Delta p / p _{\max}$	$\pm 3.3 \cdot 10^{-4} \spadesuit$	$\pm 8.6 \cdot 10^{-4} \spadesuit$
Rms momentum spread	$1.1 \cdot 10^{-4} \heartsuit$	$2.9 \cdot 10^{-4} \heartsuit$
Hor. norm. acceptance [mm mrad]	5 $\spadesuit$	5.8 $\spadesuit$
Hor. /vert. norm. emittance [mm mrad]	0.56 $\heartsuit$ / 1.52	0.31 $\heartsuit$ / 2.2 $\heartsuit$
Revolution frequency [kHz]	682.1	597.3
Momentum compaction, $\alpha$	1.785	0.51
Slip-factor: $\eta = \alpha - 1/\gamma^2$	1.144	-0.132
Transition energy ( $\gamma_{tr} = 1/\sqrt{\alpha}$ ), [MeV]	N/A $\ast$	376

$\spadesuit$  Limited by distance between bending plates ( $2a=3$  cm)

$\ast$  Operation above transition because  $\alpha > 1$

$\heartsuit$  Set by IBS

above transition

I believe this is incorrect