



# Sirius – Injection

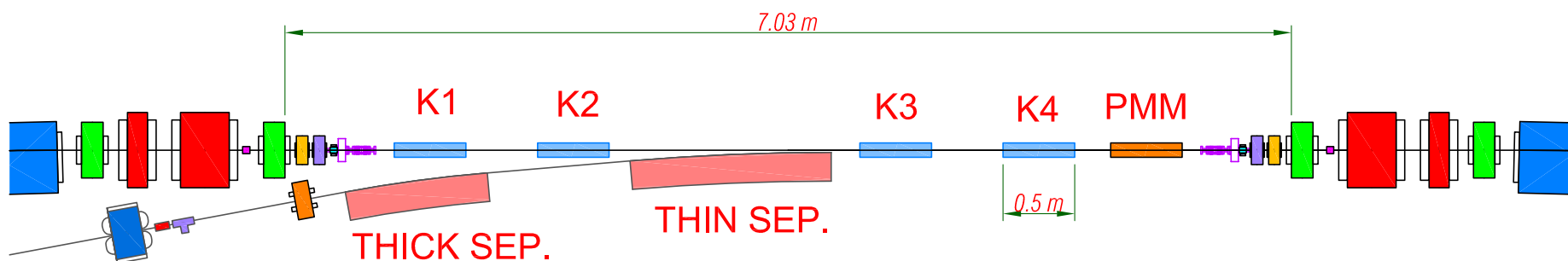
Liu Lin

LNLS Accelerator Physics Group

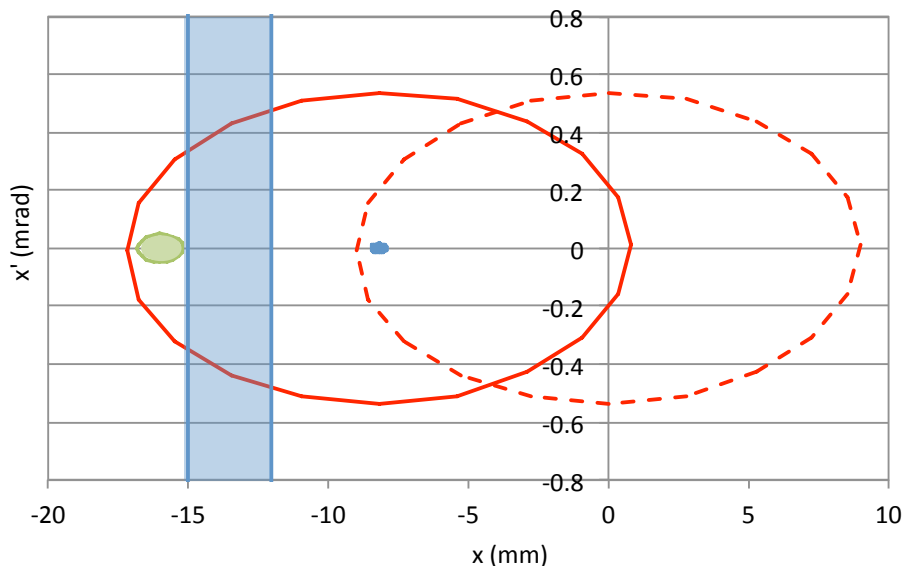
# Injection system parameters and challenges

Booster emittance (nm)	3.8
Booster circumference (m)	496.8
Off-axis injection schemes	4 kicker/PMM

- Use same straight section for 4 kicker and PMM injection
- R&D on PMM
- Thin septum field leak
- Pulse of 4 kickers

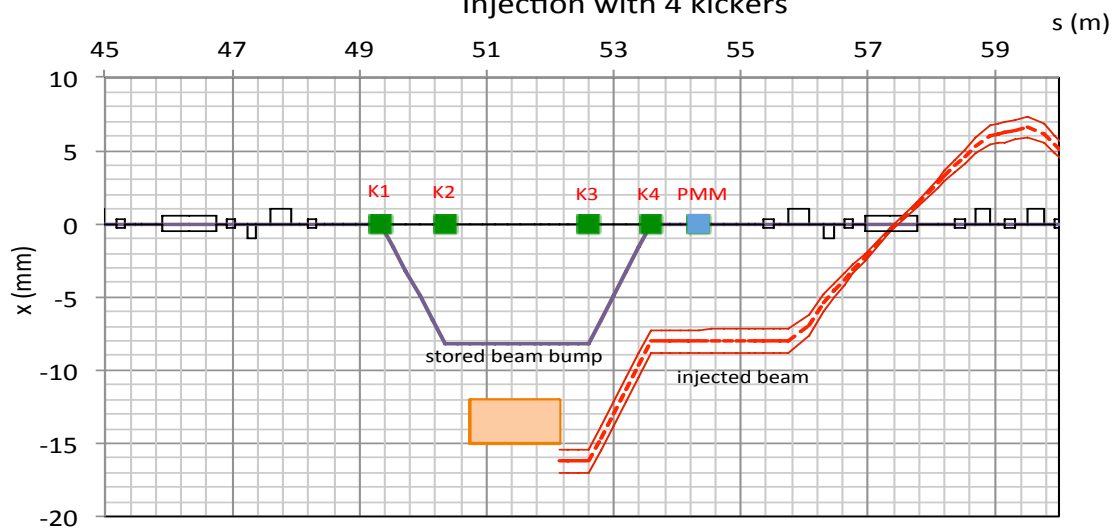


# Injection with 4 kickers

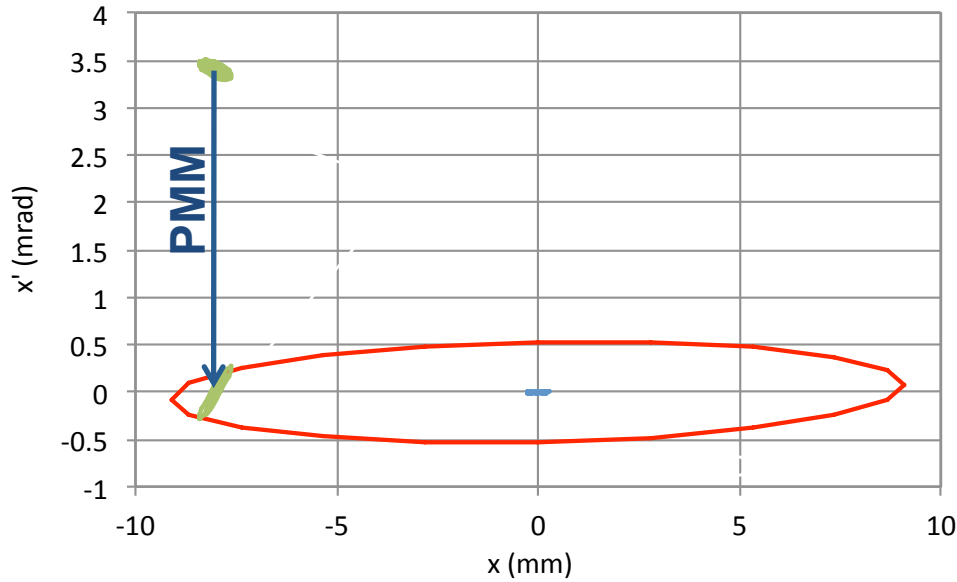


Horiz. dynamic aperture	<b>9</b>	mm
Bump amplitude	-8.2	mm
Aperture for stored beam	3.8	mm
Aperture for injected beam	2.2	mm
Septum thickness	3	mm
Kicker length	0.5	m
Kicker deflection	8.2	mrad
Kicker magnetic field	0.164	T
4 kicker identity	0.01	%

Injection with 4 kickers



# Injection with PMM



PMM deflection @ beam centroid	3.4	mrad
PMM length	0.5	m
PMM magnetic field @ beam centroid	0.068	T
Beam centroid position @ PMM	8	mm
Injected beam angle @ end of septum	3.4	mrad

