

Beam diagnostics

a small exercise

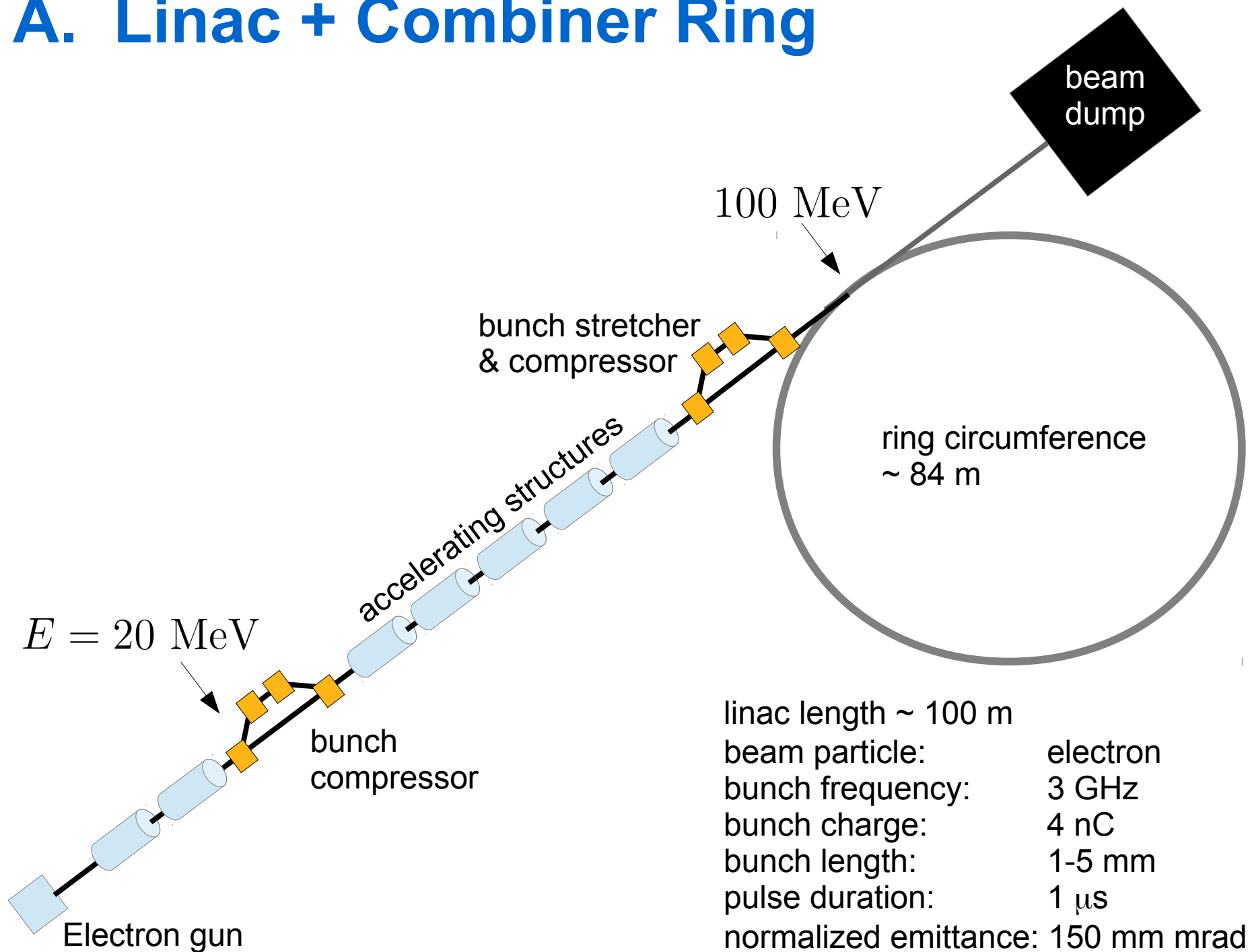
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Nordic Particle Accelerator School 2017

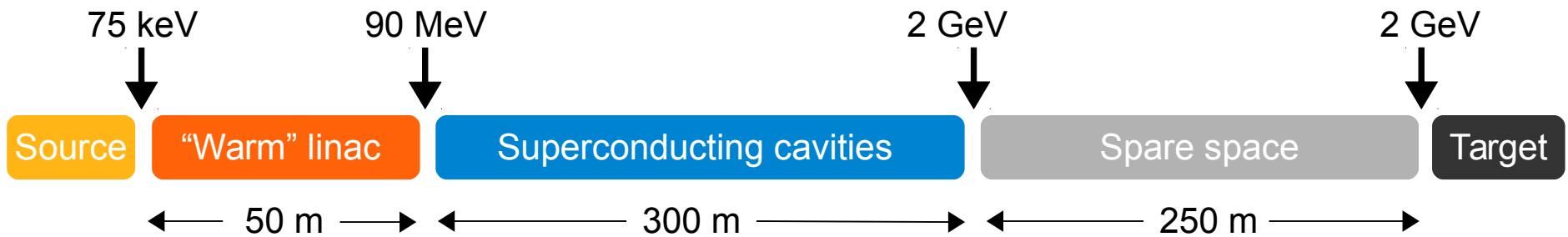
The Task

- You will work in groups of 2-4 people (2x45').
- In the following slides you find the schematic of two accelerator facilities. Your task is to choose the diagnostics one of these facilities, or for both if there is time. Choose the beam parameter that you want to monitor, the type of instrument you want to use and the monitor location in the accelerator.
- Your advisor will be around to answer any questions you might have and to discuss your choices.

A. Linac + Combiner Ring



B. ESS



Beam parameters

Beam particle:	proton
Pulse repetition rate:	14 Hz
Bunch frequency:	352 MHz
Pulse duration:	2.86 ms
Pulse current:	62.5 mA
Transverse normalized emittance:	0.25 mm mrad
RMS energy spread:	0.02%