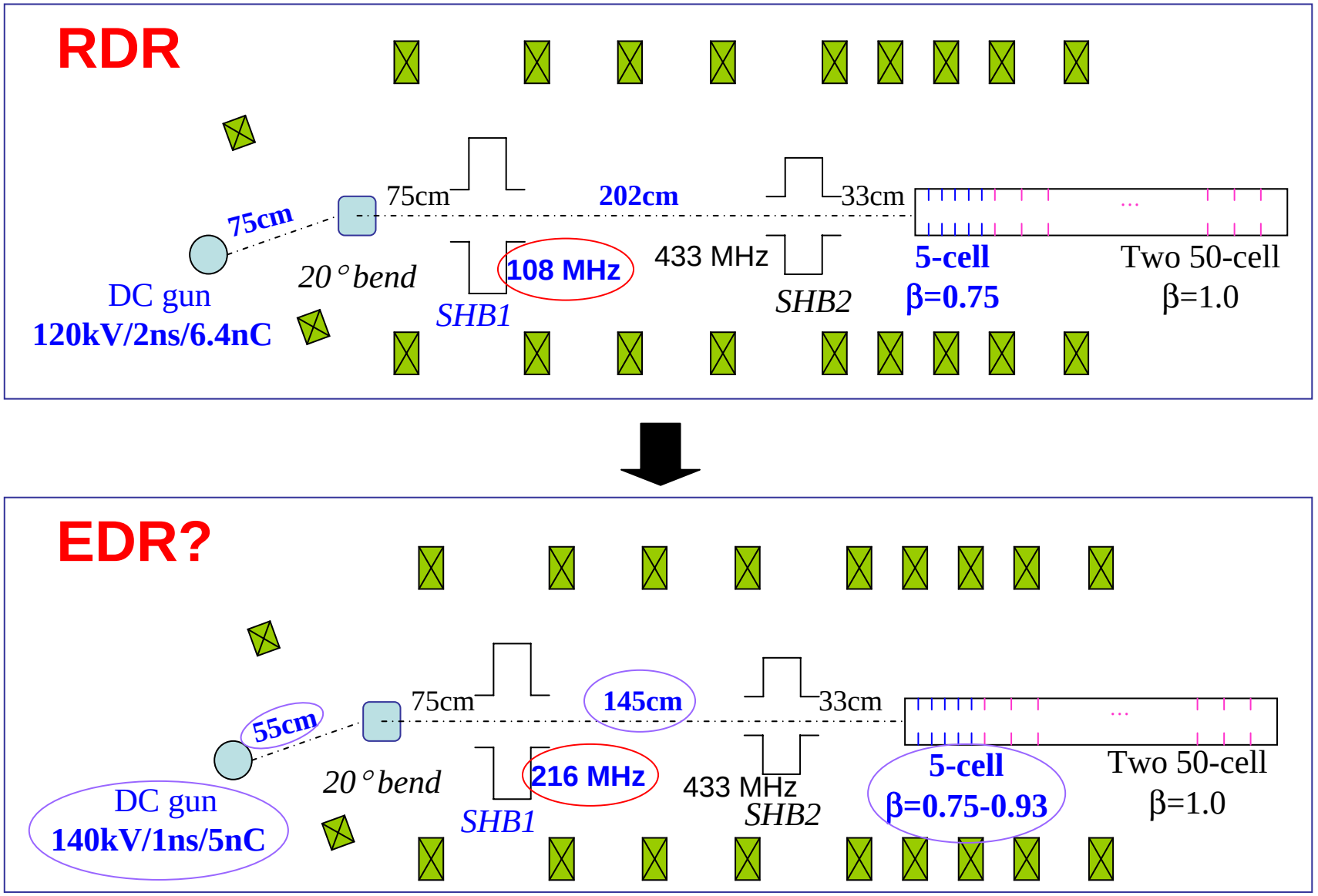
Update on 76-MeV injector



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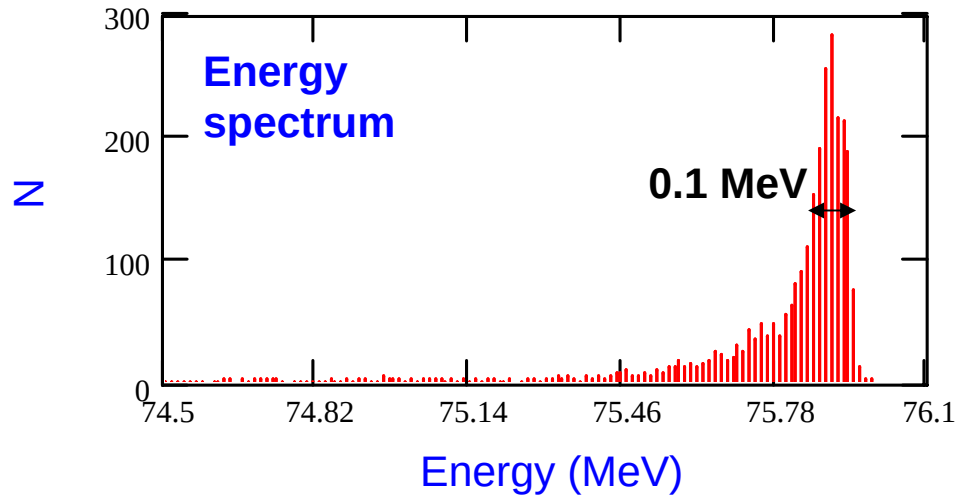

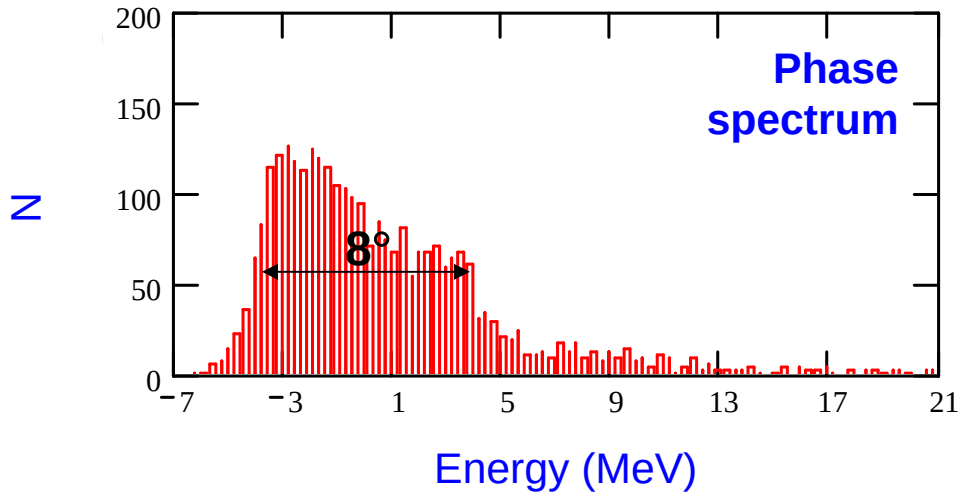

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Frequency of 1st SHB	**108 MHz (RDR)**	**216 MHz (EDR?)**
Initial parameters at gun		
Gun voltage	**120 kV**	**140 kV**
Bunch charge	**6.4 nC**	**5.0 nC**
Bunch length at gun	**2 ns**	**1 ns**
Emittance (edge, unnorm.)	70 μm	70 μm
Changes of drift length		
Between gun and 1st SHB	**150 cm**	**130 cm**
Between SHBs	**202 cm**	**145 cm**
Results at injector exit (76 MeV)		
Bunch charge	**6.36 nC**	**4.97nC**
Required	3.2 nC	3.2 nC
Bunch length FWHM/FW @1.3 GHz	10°/25°	8°/20°
Energy spread FWHM/FW	0.1/1.5MeV	0.1/1.5 MeV
Norm. rms emittance	35 μm	40 μm

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To-do-list on e- source optics during EDR

- **Goal of e- source EDR - ready for construction?**
- **76-MeV injector system:**
  - Optimize bunching system for 108 MHz and 216 MHz
  - Make enough spaces for essential elements installation including diagnostics
  - Work with RF expert to design taper-β 5-cell cavities
  - Design a new injector for high gun voltage ~200 kV
- **Rest of e-source beamline (up to DR injection line)**
  - Optimize optics including physical apertures
  - Setup 6-D phase space measurements along beamline
  - Setup tolerance requirements including diagnostics
  - Design all dump lines
- **E- source for keep-alive e+ source**
- **Beamline changes as engineering starts**

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