

The Cornell-BNL FFAG-ERL Test Accelerator

White Paper: arXiv:1504.00588

	Unpolarized ERL	Polarized ERL	Polarized Extracted ⁽²⁾	Unit
Energy ⁽¹⁾	300	300	300	MeV
Power	12000	3000	30	kW
Current	40	10	0.1	mA
Bunch frequency	20 – 1300	5 – 1300	0.05 – 1300	MHz
Normalized $\epsilon_{x,y}$	0.3	0.3	0.1	mm mrad
Bunch duration	2	2	2	ps
Energy spread	0.02	0.02	0.02	%
Polarization	0	90	90	%

(1) 300 MeV is the maximum energy for the 4-turn FFAG ERL planned at Cornell. With an addiKonal loop, the energy could be boosted to 500 MeV.

(2) For the extracted beam, other energies are possible. With energy E, the current limit is 30kW/(E-15MeV).