

# Simulation and Analysis Task Force (13 July 2021)

## Signal simulation status

- **Laser parameters confirmed**, using numbers as defined in CDR. Small changes to current parameter sets, which were inherited from IPstrong.

	40 TW, 8 $\mu$ m	40 TW, 3 $\mu$ m	350 TW, 3 $\mu$ m
Laser energy after compression (J)	1.2	1.2	10
Laser pulse duration (fs)	30		
Laser focal spot waist $w_0$ ( $\mu$ m)	8	3	3
Fraction of ideal Gaussian intensity in focus (%)	0.5		
Peak intensity in focus ( $\times 10^{20}$ Wcm $^{-2}$ )	0.19	1.33	12
Dimensionless peak intensity, $\xi$	3.0	7.9	23.6
Laser repetition rate (Hz)	1		
Electron-laser crossing angle (rad)	0.35		

- **Ptarmigan v.0.8.0 released**: includes output of particle and parent-particle IDs, for reconstruction of event tree, as well as speed improvements.
- Trial data to be written to /nfs/dust/luxe/group/MCProduction/Signal/ptarmigan-v0.8.0
- Definitions of input parameters and metadata for individual scans to be documented on the LUXE confluence page (under section *Signal simulations*), following example of the Geant4 simulations.