## Simulation guide

All *fast\_fastphase* scripts are implemented with the one-dimensional projection method (Zhang et al. Med Phys 2017) and the fast phase cycling scheme for acceleration.

If it is PRESS, use exciteWaveform and refocWaveform

If it is MEGA PRESS, exciteWaveform, refocWaveform and editWaveform1

If it is HERMES, use all waveforms.

* Universal sequence for both Philips (Bfield = 3) and Siemens (Bfield = 2.89)
* exciteWaveform = 'univ\_spreddenrex.pta';
* refocWaveform = 'univ\_eddenrefo.pta';
* editWaveform1 = 'sl\_univ\_pulse.pta';
* editWaveform2 = 'sl\_univ\_pulse.pta';
* editWaveform3 = 'dl\_Philips\_4\_56\_1\_90.pta'; or 'dl\_Siemens\_4\_56\_1\_90.pta';
* editWaveform4 = 'sl\_univ\_pulse.pta';
* Philips vendor sequence
* exciteWaveform = 'sg100\_100\_0\_14ms\_88hz.pta';
* refocWaveform = 'gtst1203\_sp.pta';
* editWaveform1 = 'sg100\_100\_0\_14ms\_88hz.pta';
* editWaveform2 = 'sg100\_100\_0\_14ms\_88hz.pta';
* editWaveform3 = 'dl\_Philips\_4\_56\_1\_90.pta';
* editWaveform4 = 'sg100\_100\_0\_14ms\_88hz.pta ';
* Siemens vendor sequence
* exciteWaveform = 'univ\_spreddenrex.pta';
* refocWaveform = 'orig\_refoc\_mao\_400\_4.pta';
* editWaveform1 = 'sl\_univ\_pulse.pta';
* editWaveform2 = 'sl\_univ\_pulse.pta';
* editWaveform3 = 'dl\_Siemens\_4\_56\_1\_90.pta';
* editWaveform4 = 'sl\_univ\_pulse.pta';

If it is HERCULES

exciteWaveform = 'sg100\_200pts.pta';

refocWaveform = 'gtst1203\_sp.pta';

editWaveform1 = 'sg100\_100\_0\_14ms\_88hz.pta'; % [4.58ppm]

editWaveform2 = 'sg100\_100\_0\_14ms\_88hz.pta'; % [4.18ppm]

editWaveform3 = 'dl\_Philips\_4\_58\_1\_90.pta'; % [4.58ppm 1.90ppm]

editWaveform4 = 'dl\_Philips\_4\_18\_1\_90.pta'; % [4.18ppm 1.90ppm]

If it is HERCULES 2

exciteWaveform = 'sg100\_200pts.pta';

refocWaveform = 'gtst1203\_sp.pta';

editWaveform1 = 'sg100\_100\_0\_14ms\_88hz.pta'; % [4.58ppm]

editWaveform2 = 'am\_sg\_150\_100\_200pts.pta'; % [4.04ppm]

editWaveform3 = 'dl\_Philips\_4\_58\_1\_90.pta'; % [4.58ppm 1.90ppm]

editWaveform4 = 'dl\_Philips\_4\_04\_1\_90.pta'; % [4.04ppm 1.90ppm]

**HERCULES 1 and 2 are not available for Siemens at this time.**