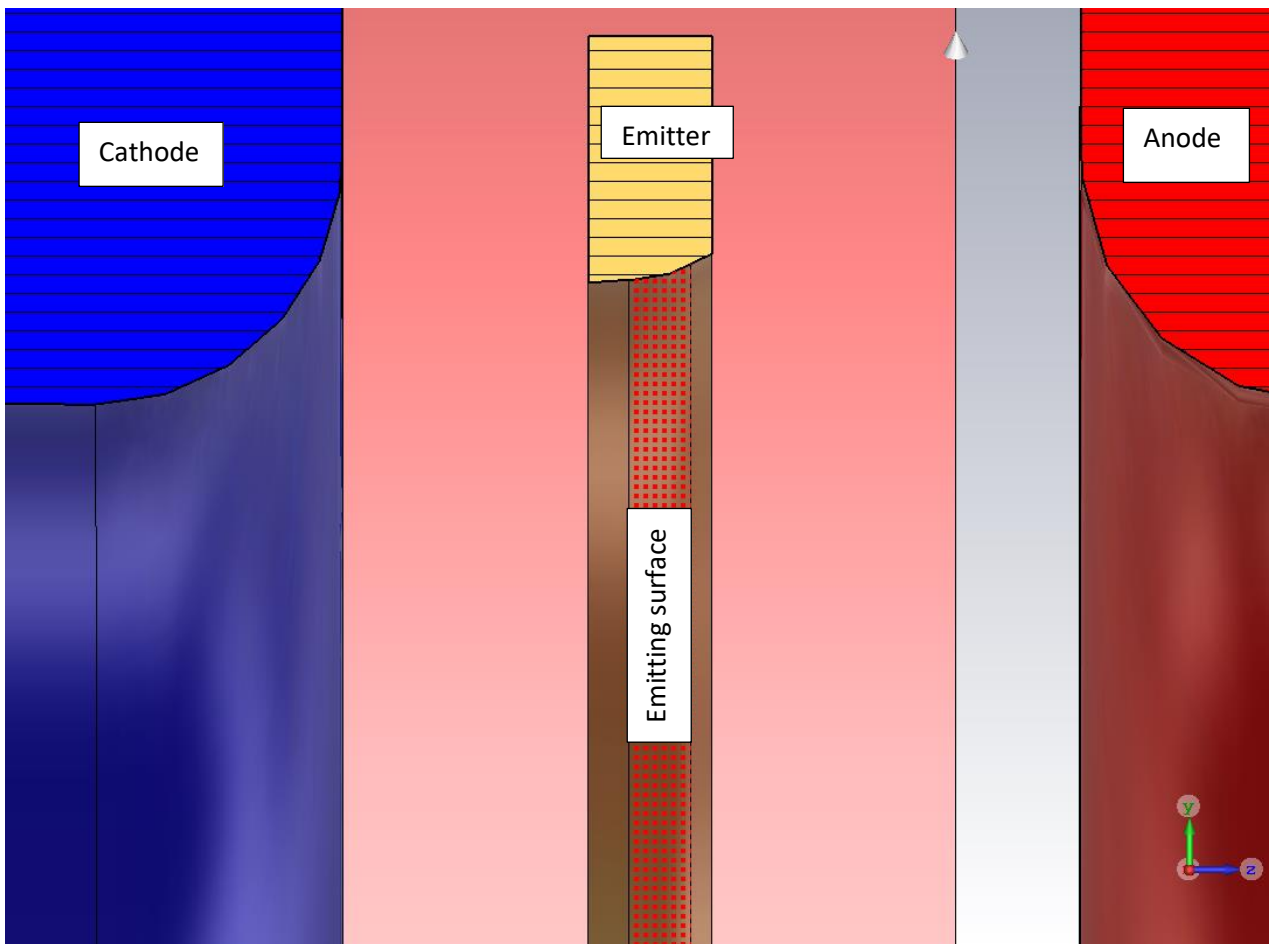
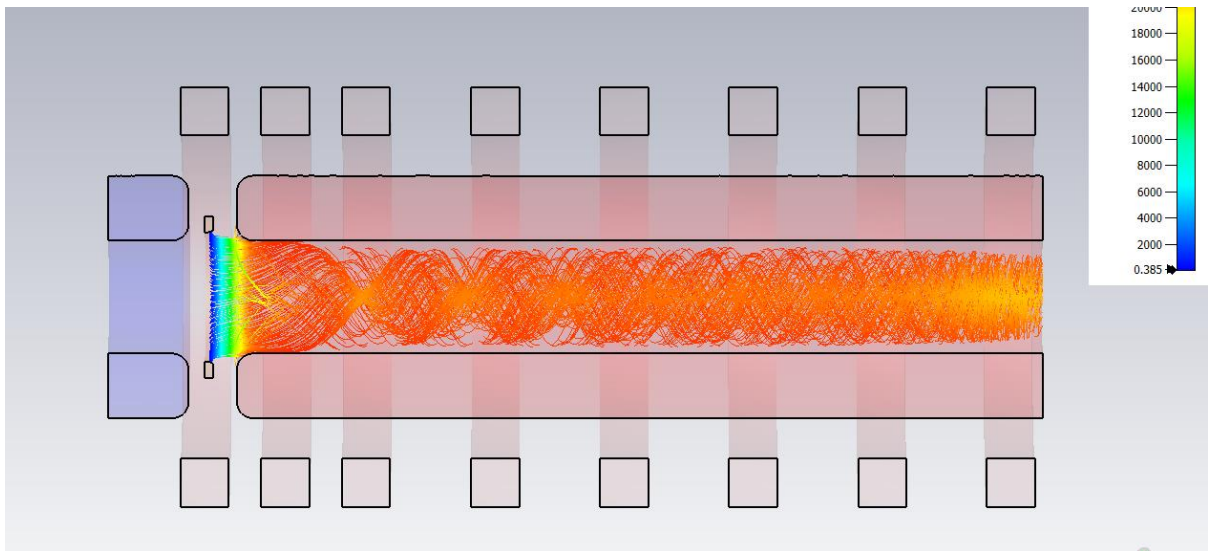


Helmholtz coils with field reversal at cathode/anode gap.



Emitter with curved surface 'sprays' electrons over wide range of angles to 'fill' lens. Emitter position is optimised to B field – it will be possible to position the emitter at any desired position and voltage by adjusting the magnetic field coils – at present it lies where it fell in my initial set up, which was just a guess.



Particle trajectories. Emitter position chosen relative to magnetic field cusp> emitted electrons cross cusp shortly after emission. Conservation of canonical momentum forces them to orbit axis.

Next task will be to add diagnostics (this is quite a big task and can take some time) to measure current and extend sim to include full lens with possibility for modelling of 'round trip'