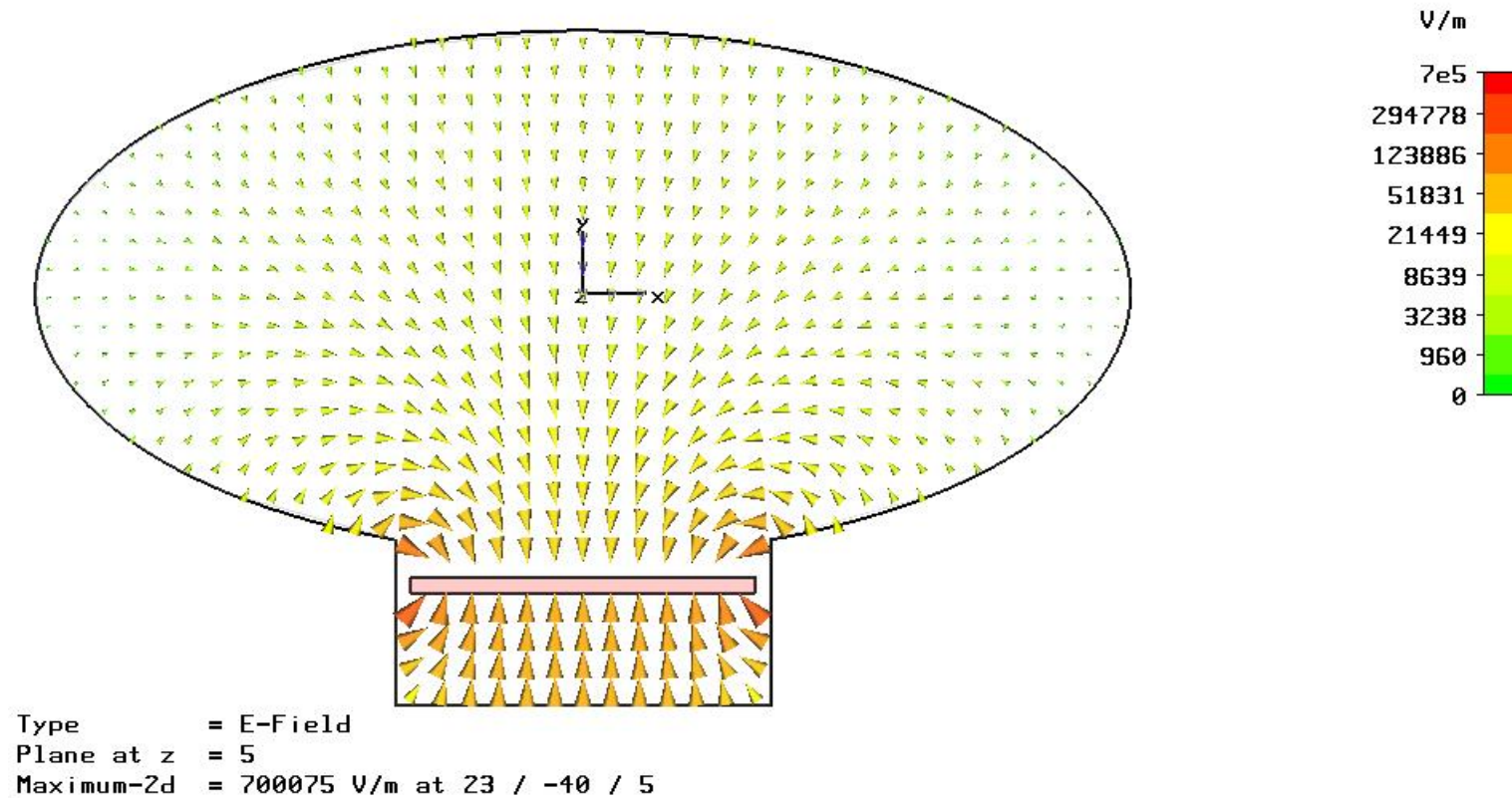


simulations of clearing electrodes for PS & PS2

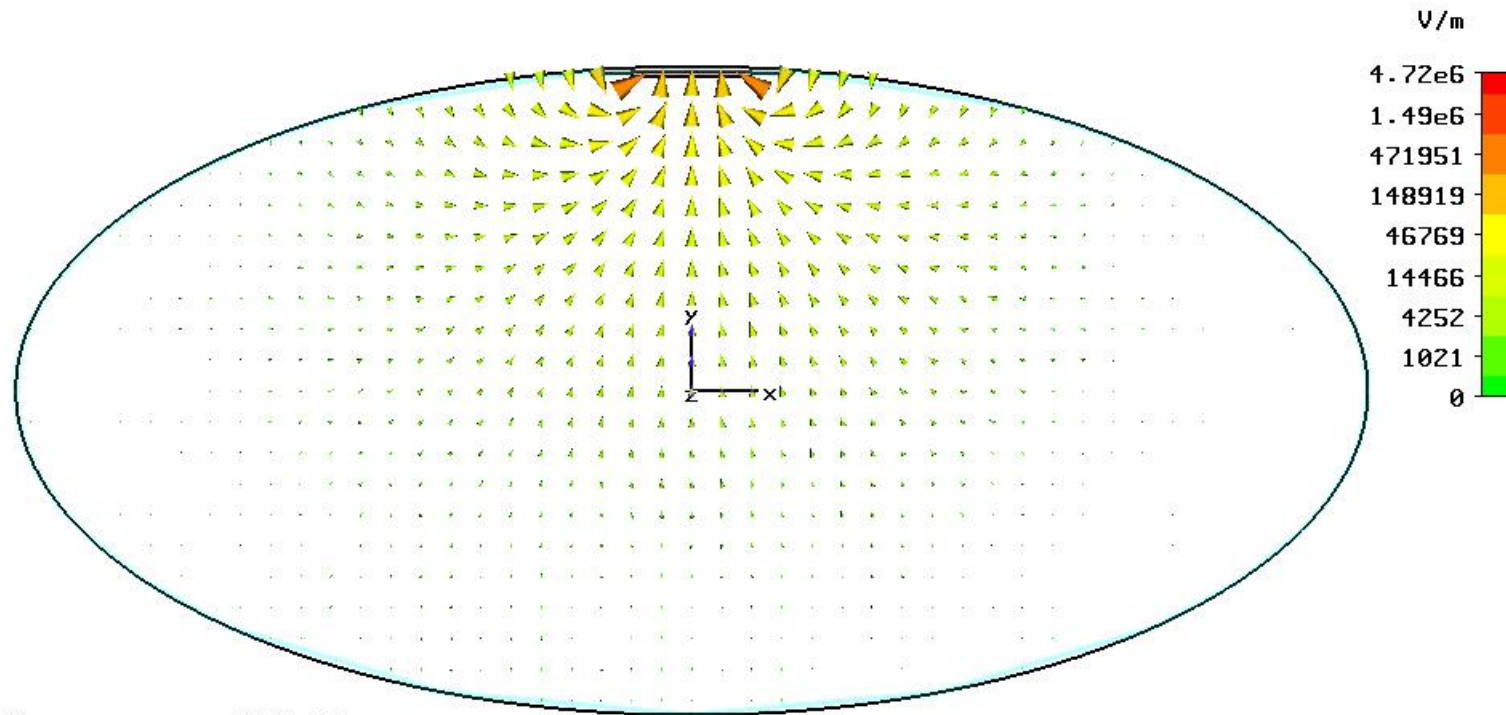
electrical fields maps provided by Tom Kroyer for 3 cases:

- conventional electrode
- centered enamel electrode
- enamel electrode with offset

conventional electrode – Tom Kroyer

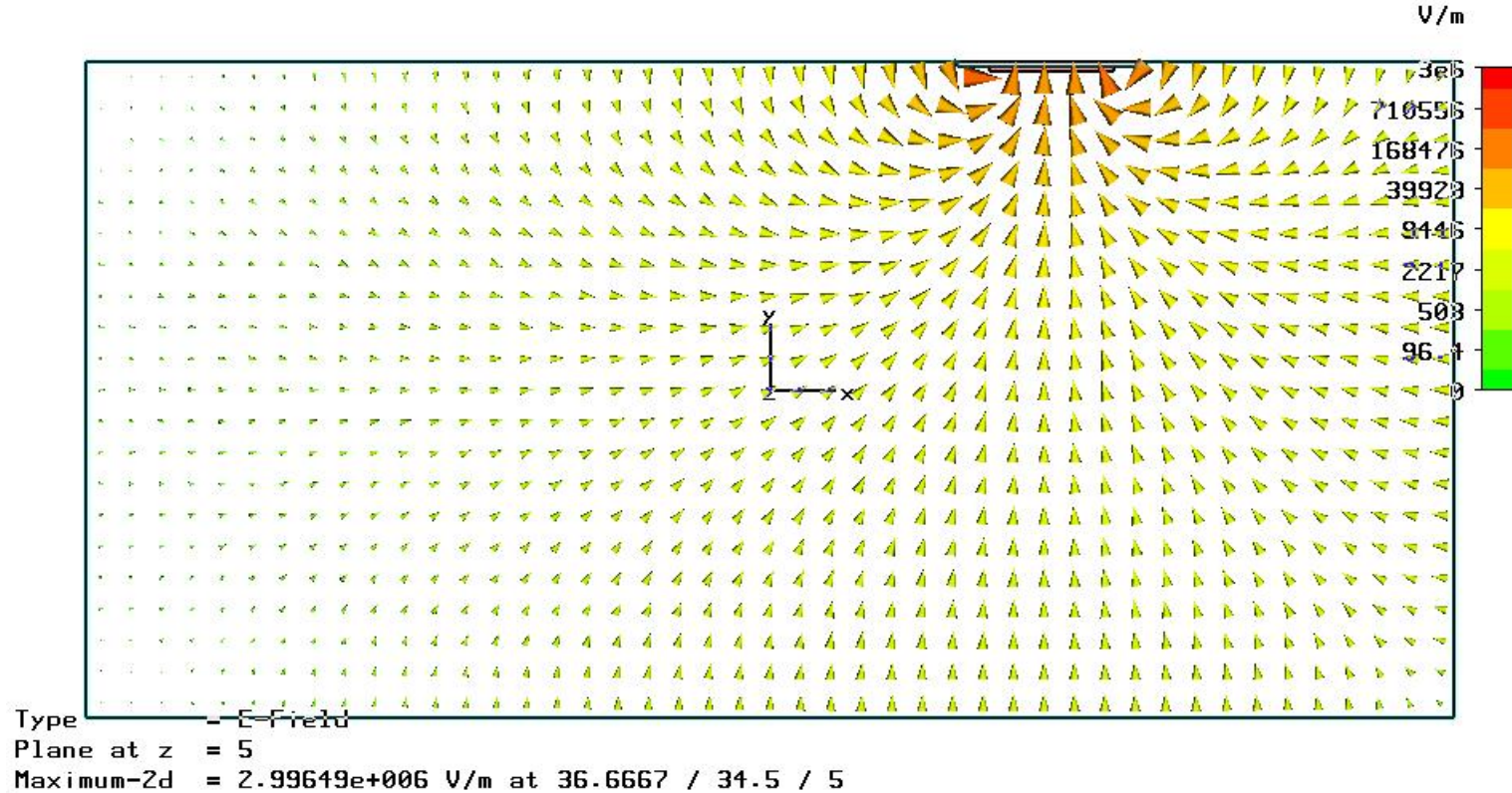


centered enamel electrode – Tom Kroyer



Type = E-Field
Plane at z = 5
Maximum-2d = 4.72388e+006 V/m at -6.50145 / 34.361 / 5

offset enamel electrode – Tom Kroyer



simulation parameters:

10 ntorr pressure

2 Mbarn ionization cross section

$\delta_{\max}=1.5$, $\varepsilon_{\max}=239.5$ eV

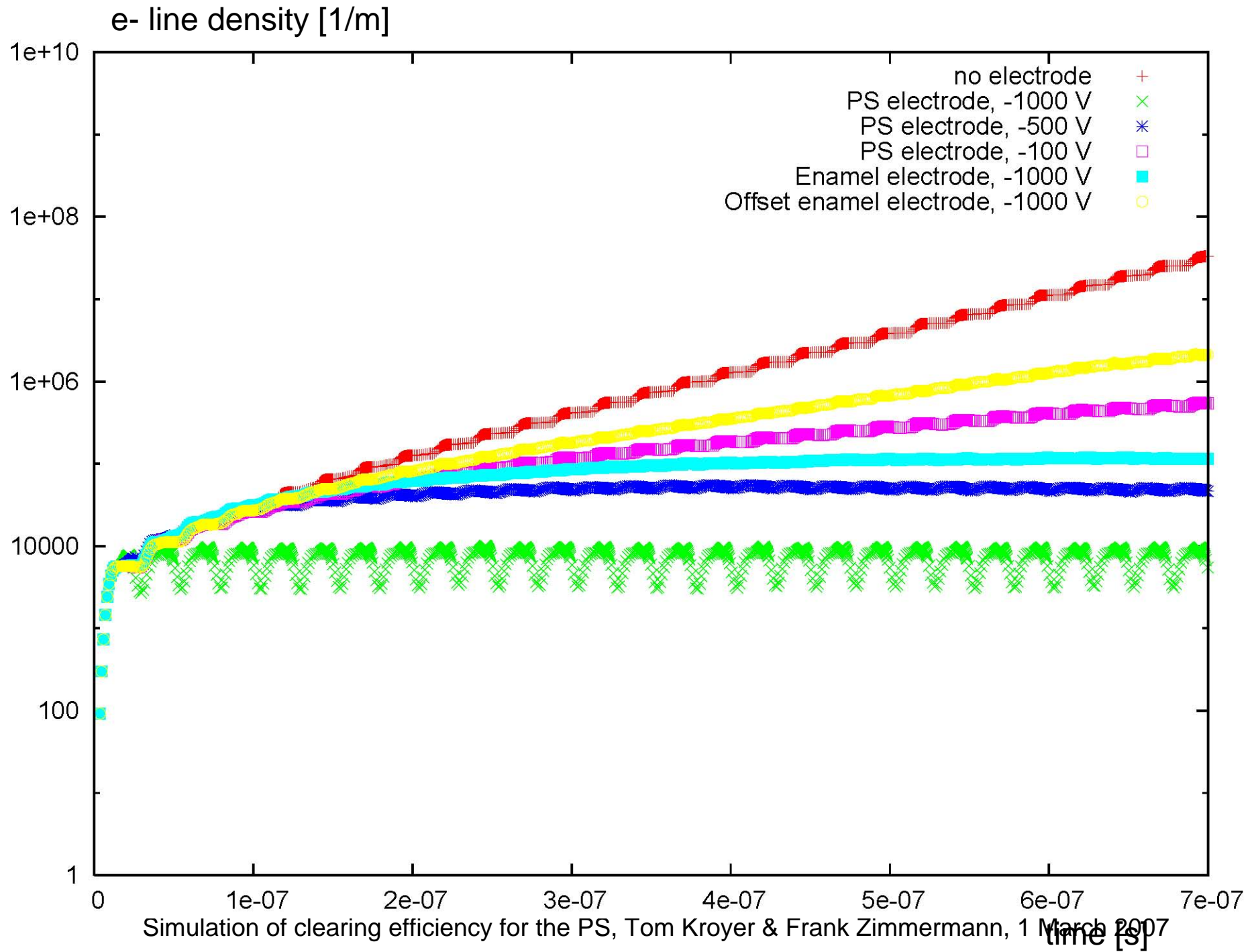
elliptical chamber

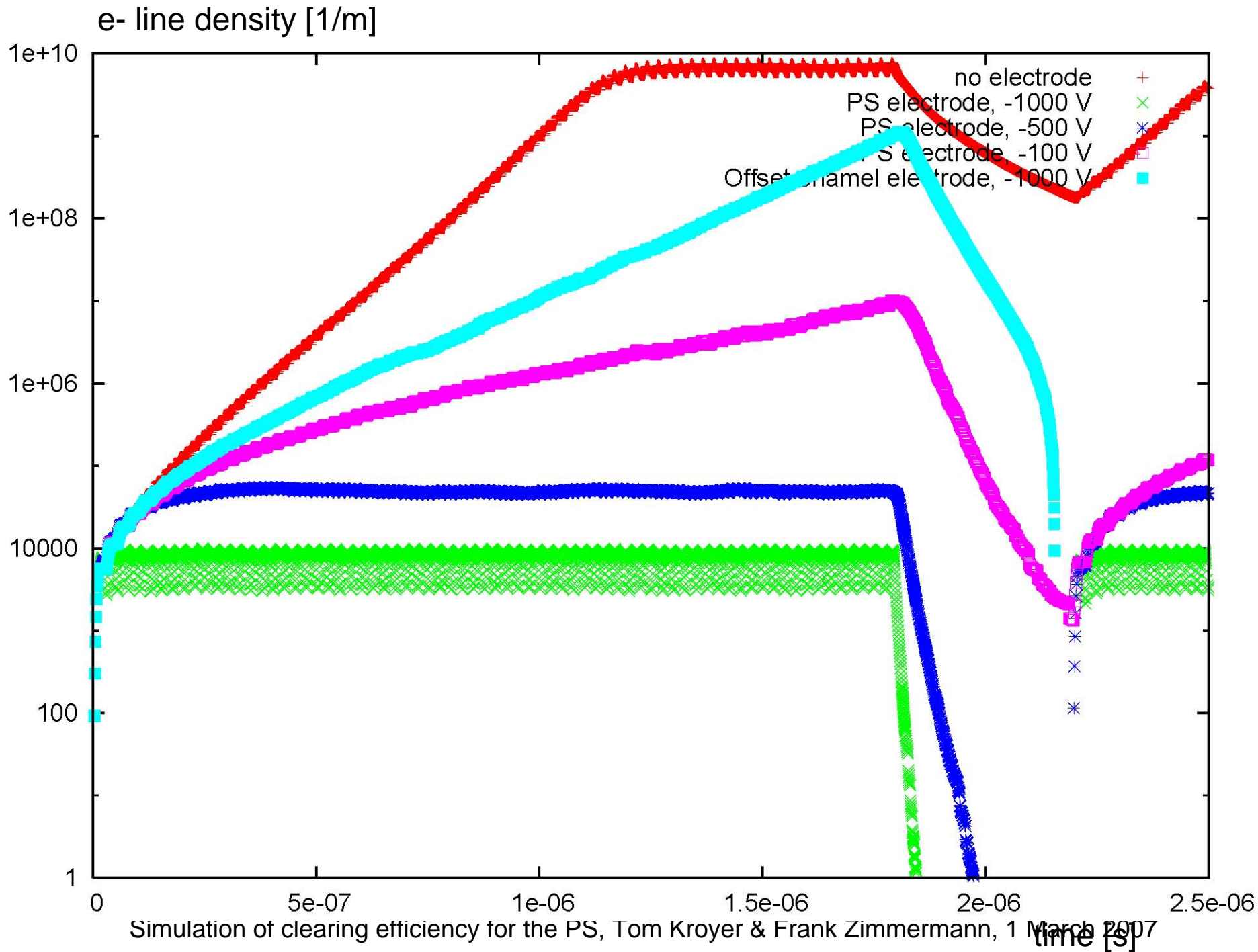
73mm x 35 mm half aperture

beam sizes:

$\sigma_x=1.58$ mm, $\sigma_y=0.42$ mm, and $\sigma_z=75$ cm

10 Gauss dipole field





preliminary conclusions:

the conventional PS electrode is most effective and also works for -500 V, but not anymore for -100 V bias voltage;

the enamel electrode also is effective (unfortunately this simulation crashed after 700 ns);

the offset enamel electrode with -1000 V does not suppress the multipacting