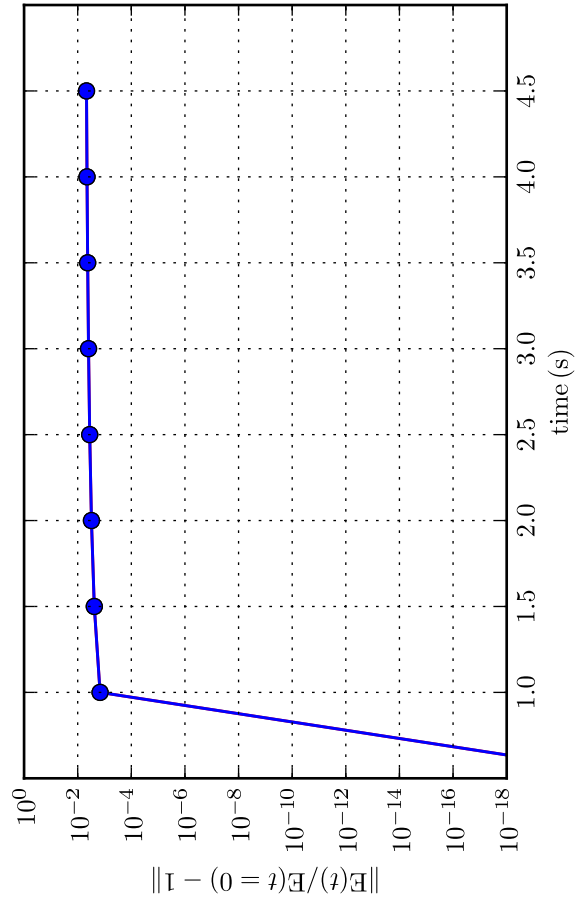
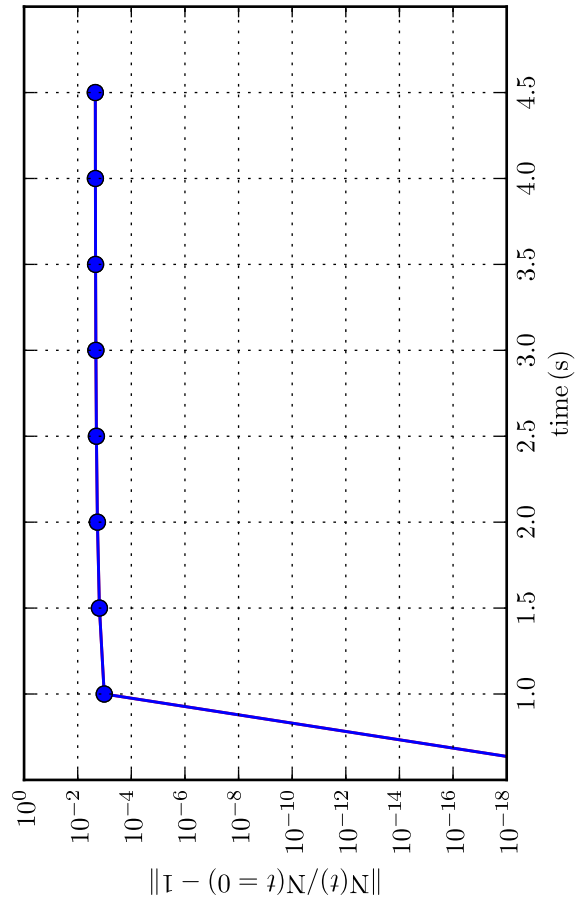
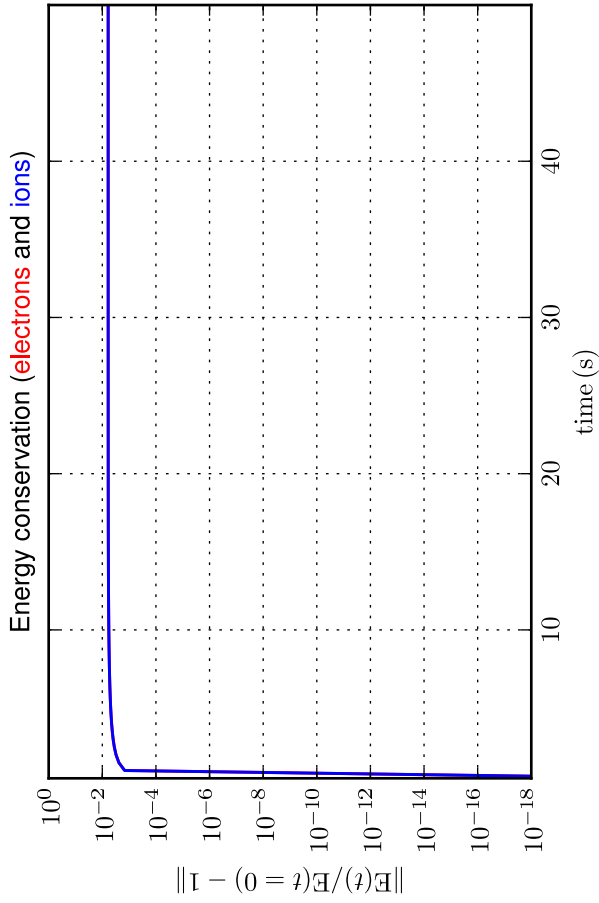
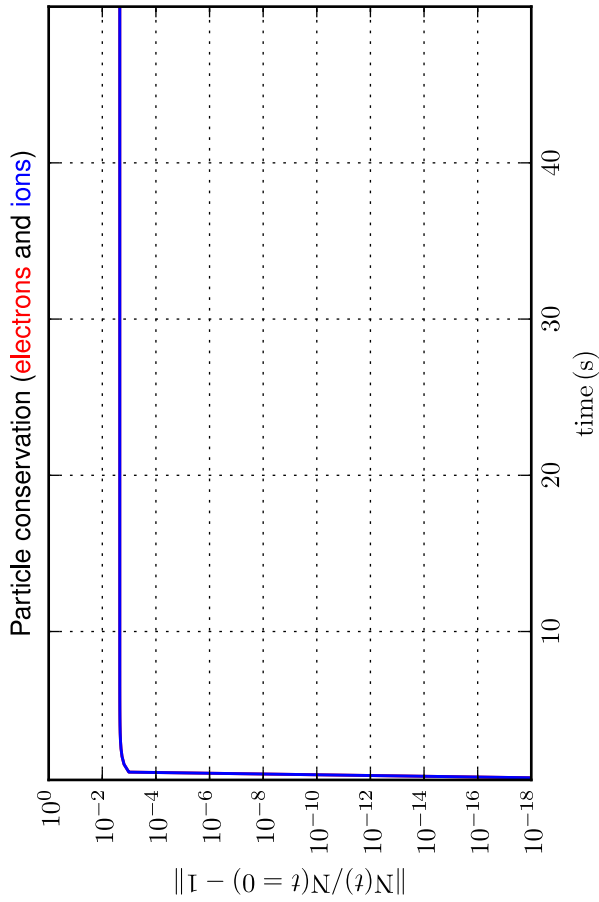
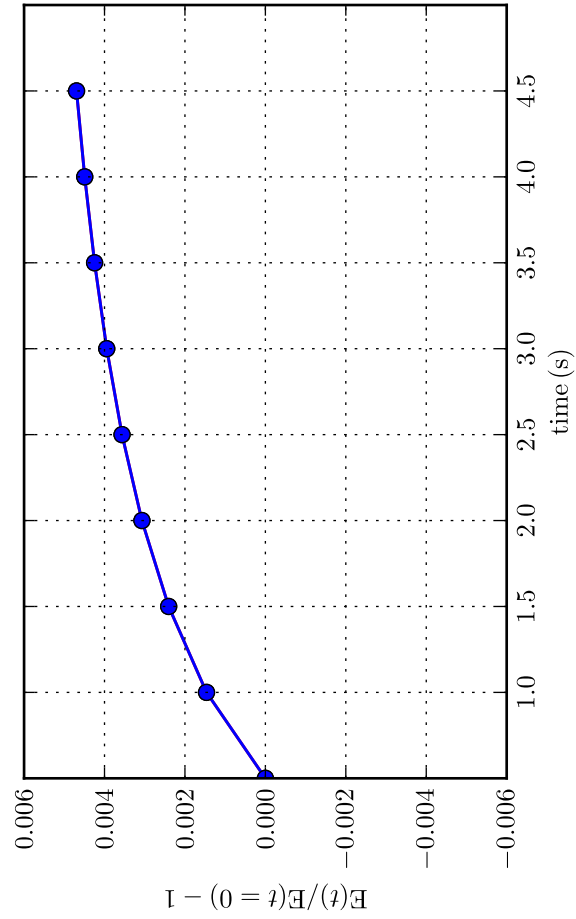
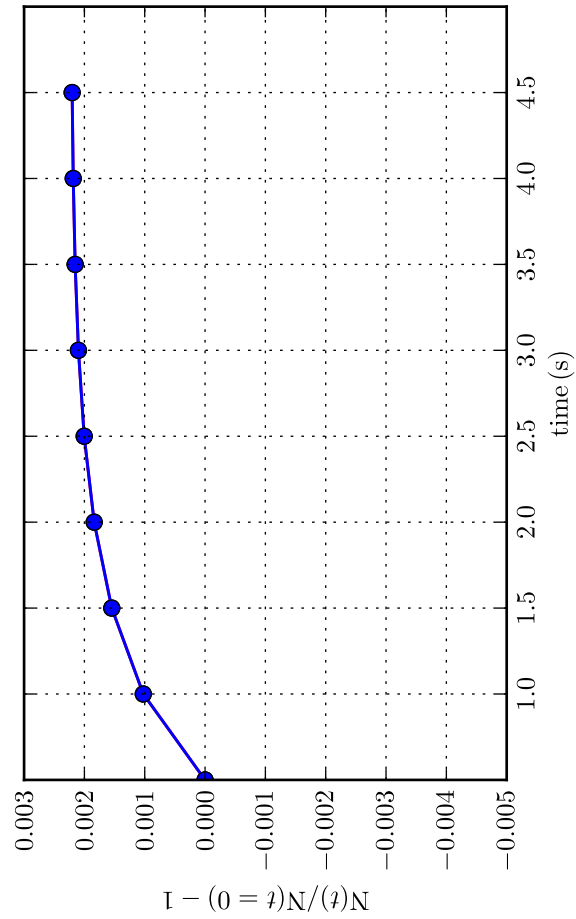
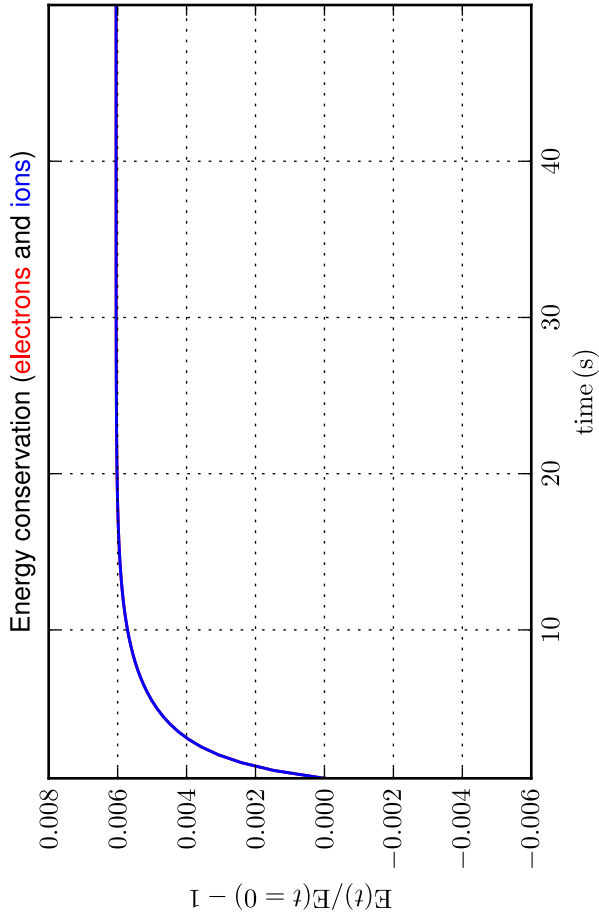
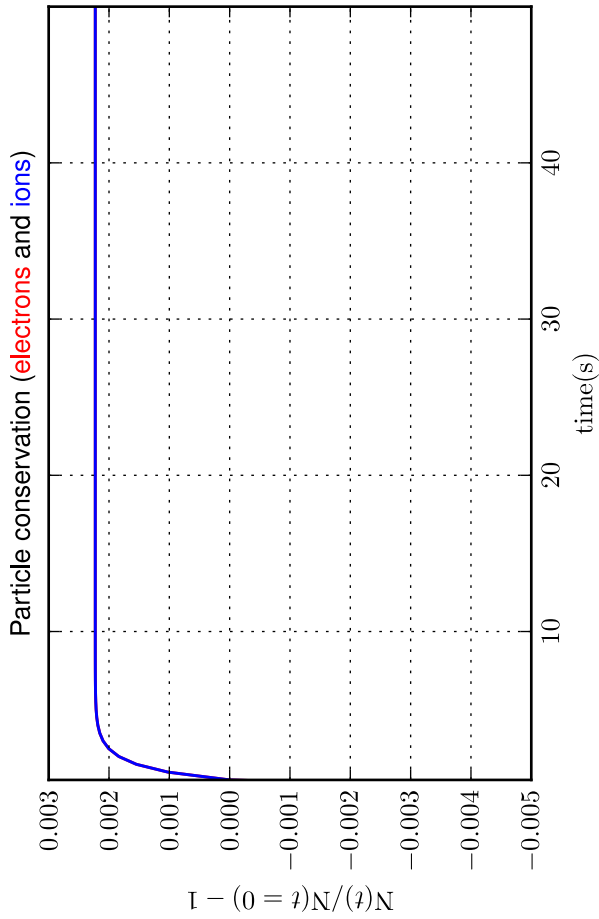


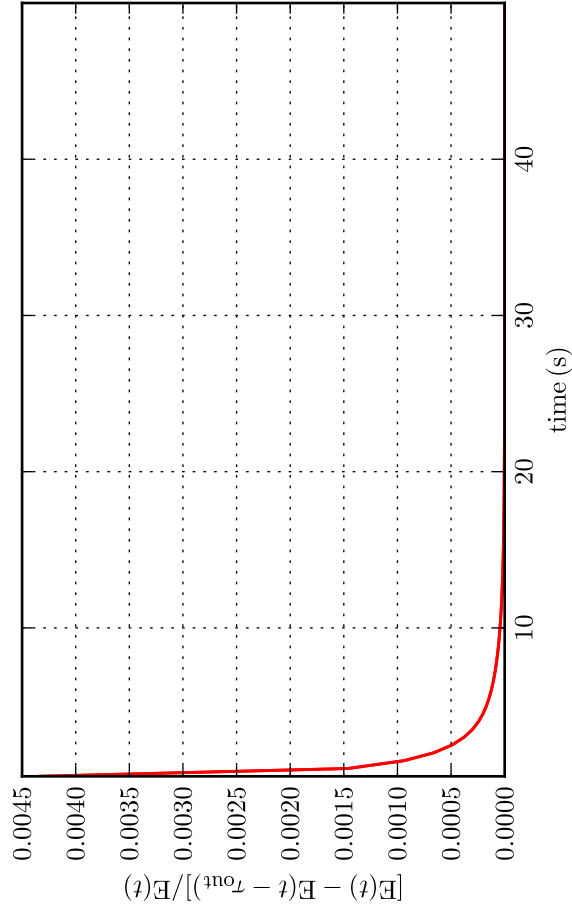
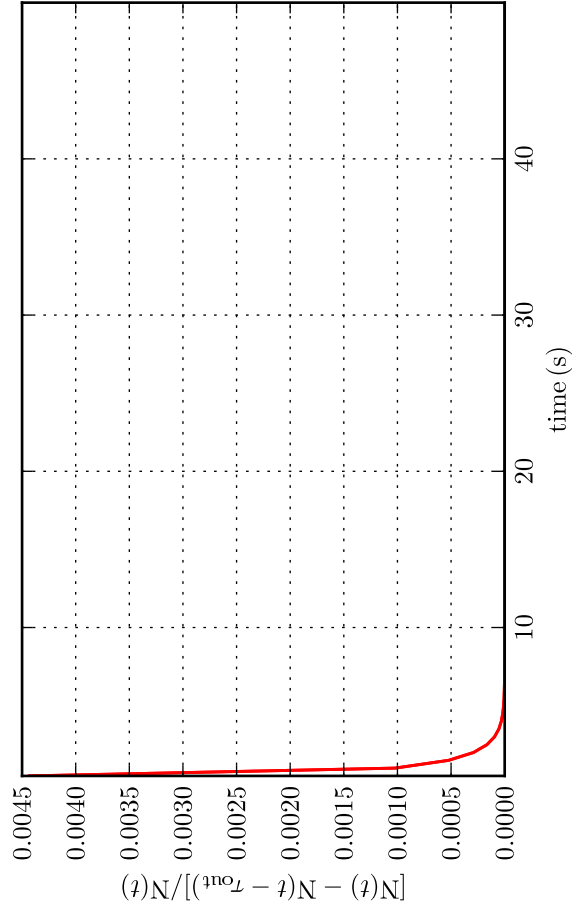
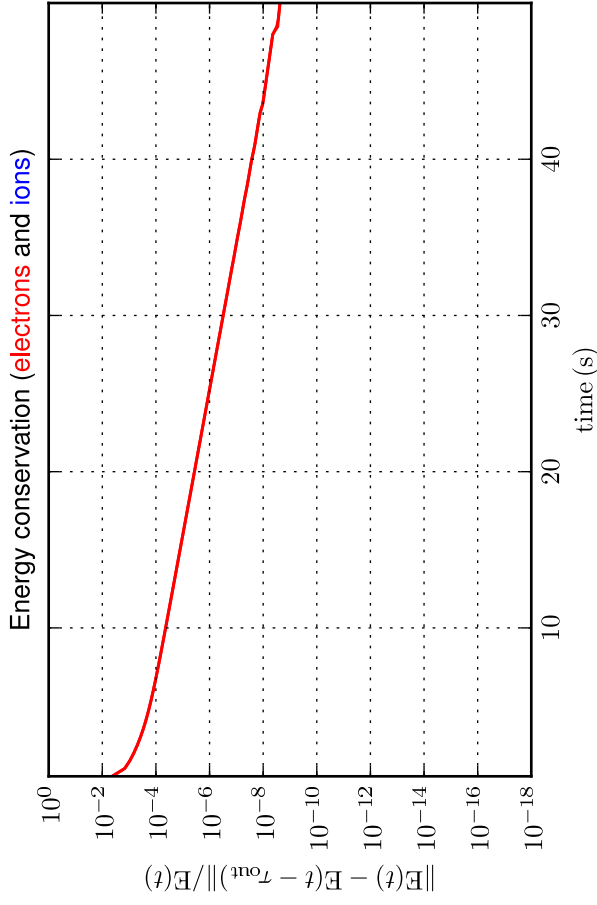
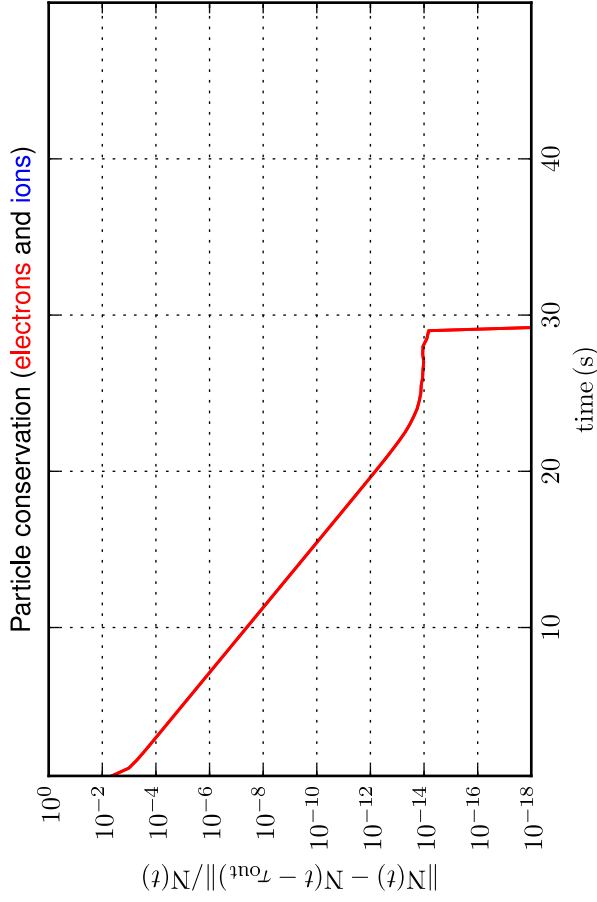
Part. & Energy conservation [Case: 1.1.5, Solver: 3,  $D = 0.1 \text{ m}^2/\text{s}$ ,  $v = 0.00 \text{ m/s}$ ,  $\Delta t = 50.01$ ,  $\tau = 1.0 \times 10^{-2} \text{ s}$ ,  $N_p = 101$ ]  
 Comparison with initial solution - log scale; total time and zoom over time



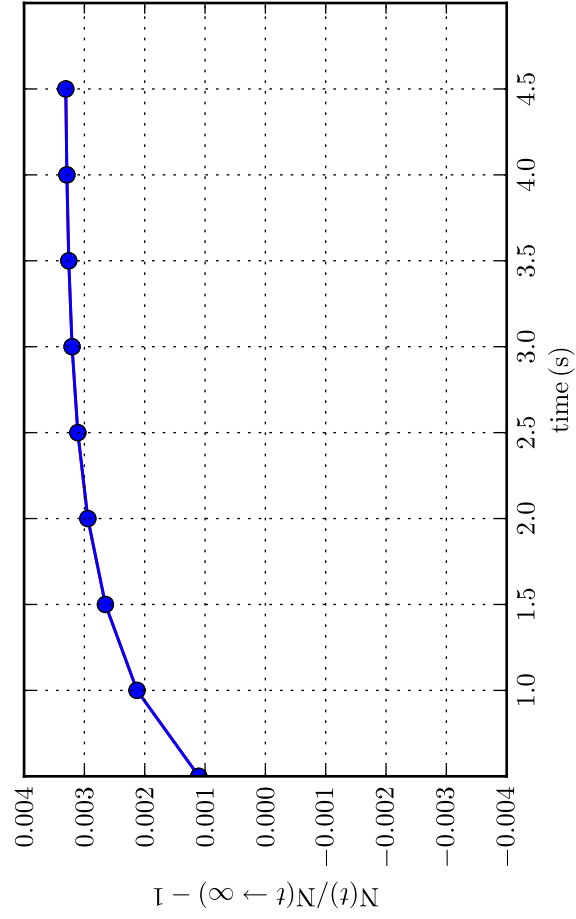
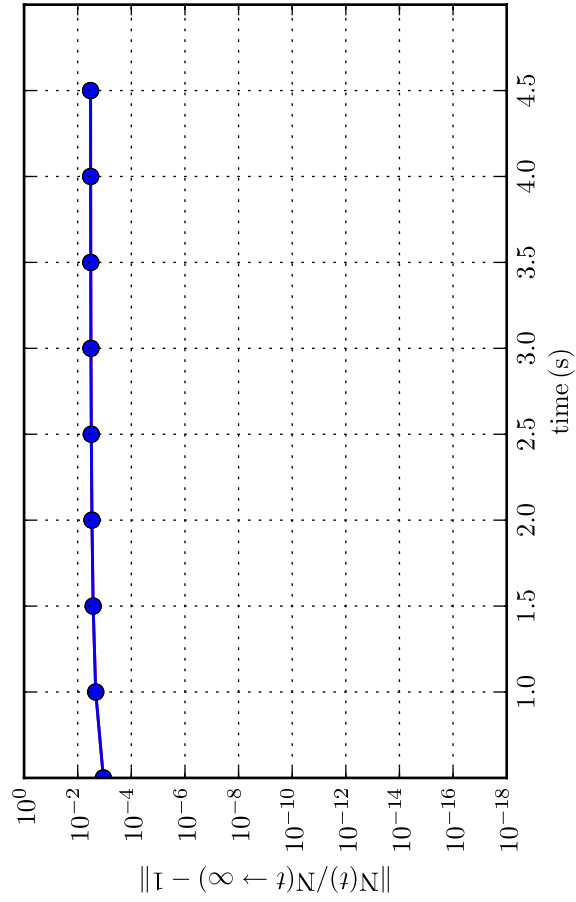
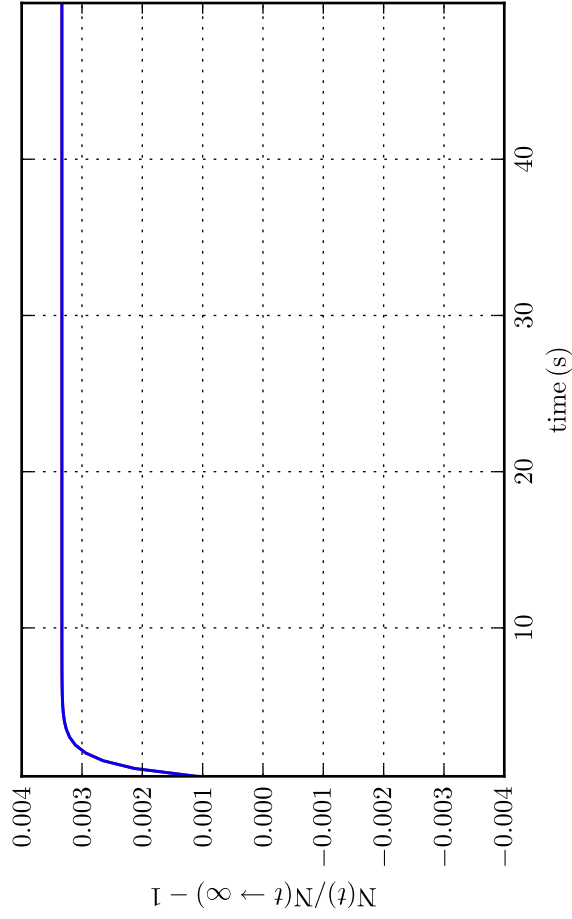
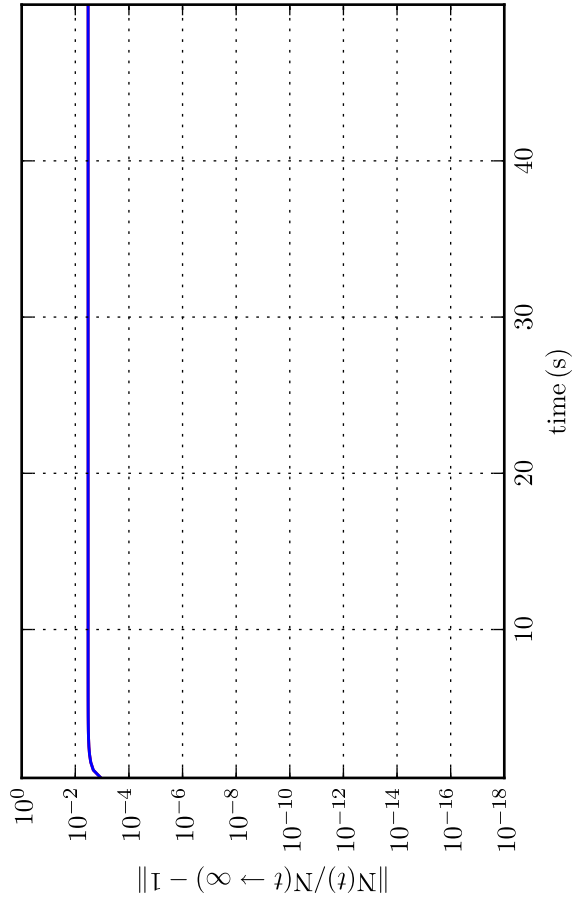
Part. & Energy conservation [Case: 1.1.5, Solver: 3,  $D = 0.1 \text{ m}^2/\text{s}$ ,  $v = 0.00 \text{ m/s}$ ,  $\Delta t = 50.01$ ,  $\tau = 1.0 \times 10^{-2} \text{ s}$ ,  $N_p = 101$ ]  
 Comparison with initial solution - linear scale; total time and zoom over time



Part. & Energy conservation [Case: I.1.5, Solver: 3,  $D = 0.1 \text{ m}^2/\text{s}$ ,  $v = 0.00 \text{ m/s}$ ,  $\Delta t = 50.01$ ,  $\tau = 1.0 \times 10^{-2} \text{ s}$ ,  $N_p = 101$ ]  
 Comparison with previous time-sampled ( $\tau_{\text{out}}$ ) solution - log and linear scales

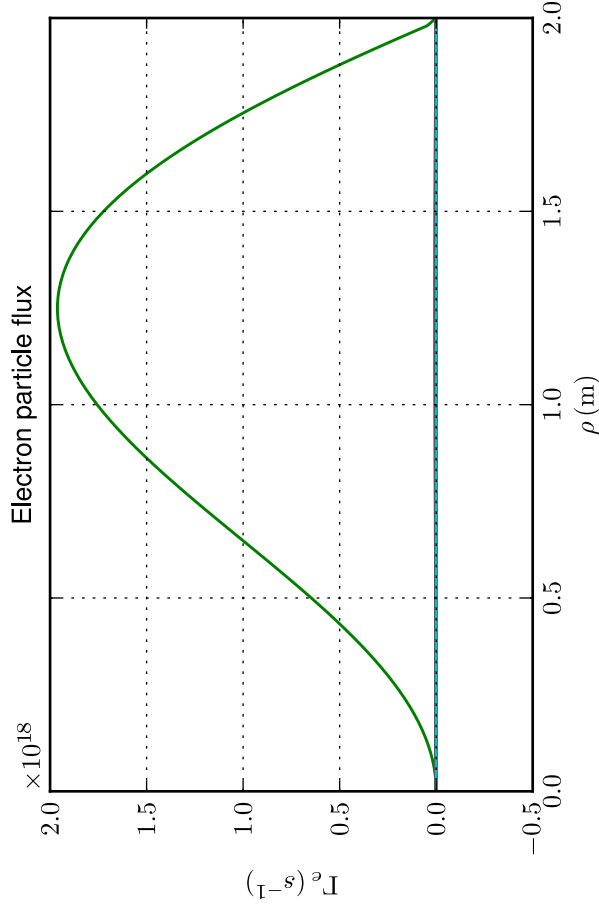
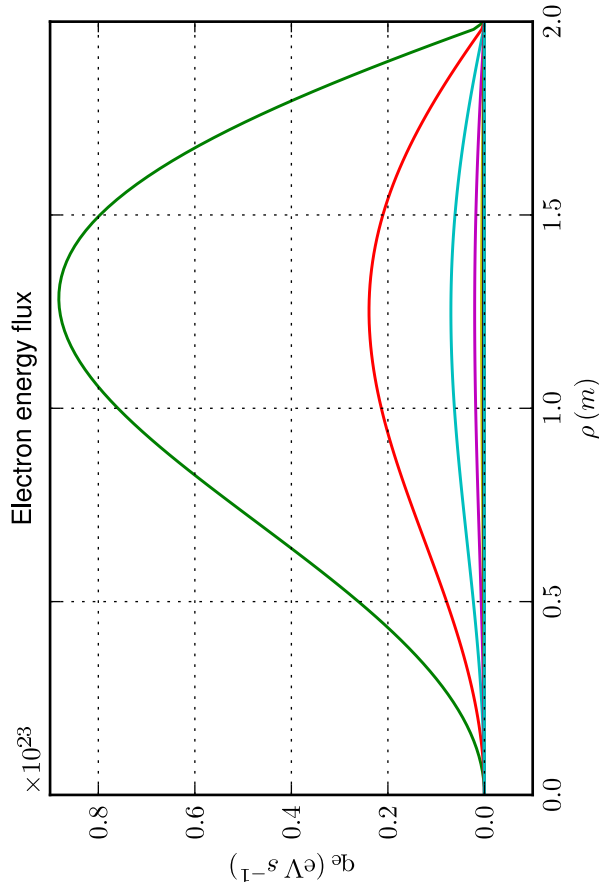
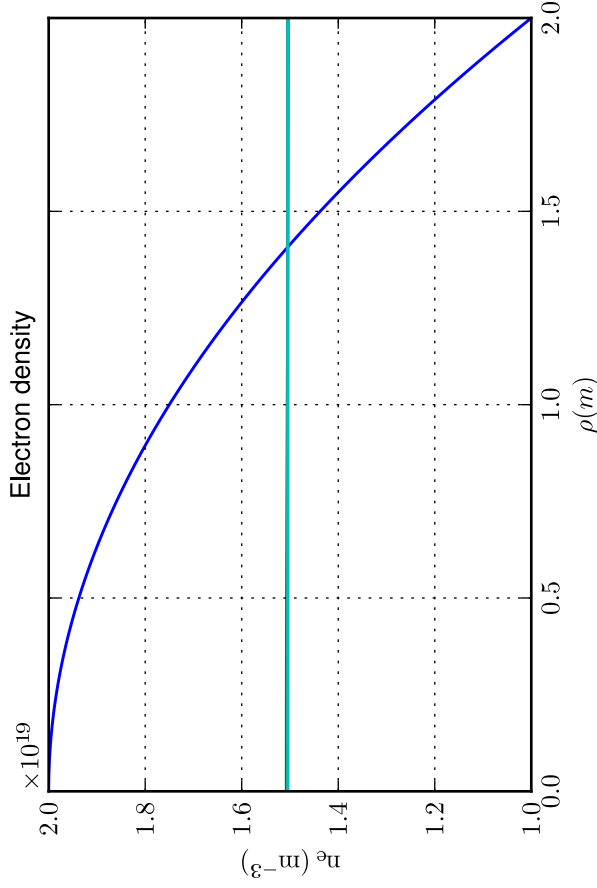
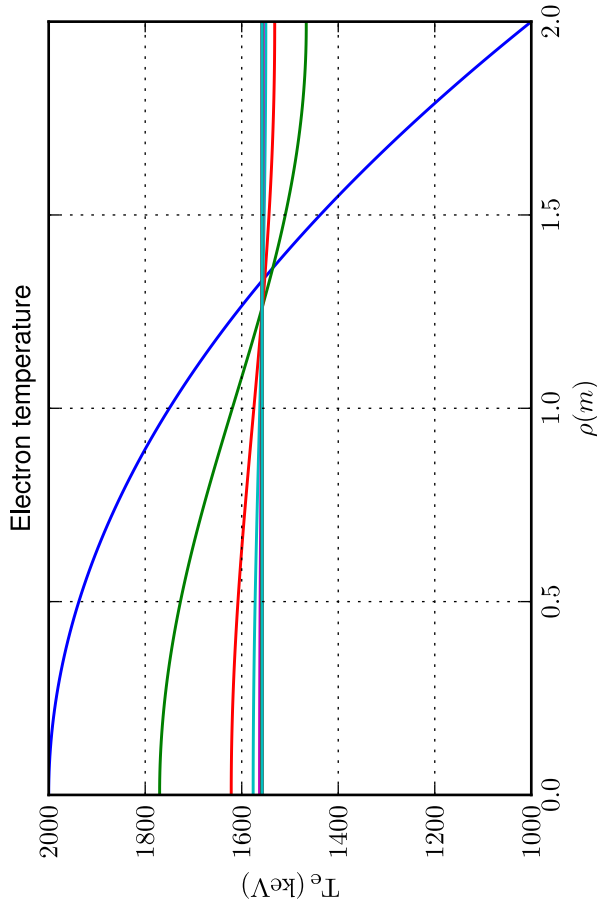


Particle conservation [Case: I.1.5, Solver: 3,  $D = 0.1 \text{ m}^2/\text{s}$ ,  $v = 0.00 \text{ m/s}$ ,  $\Delta t = 50.01$ ,  $\tau = 1.0 \times 10^{-2} \text{ s}$ ,  $N_p = 101$ ]  
 Comparison with asymptotic solution (electrons and ions); total time and zoom over time



Profiles [Case: I.1.5, Solver: 3,  $D = 0.1 \text{ m}^2/\text{s}$ ,  $v = 0.00 \text{ m/s}$ ,  $\Delta t = 50.01$ ,  $\tau = 1.0 \times 10^{-2} \text{ s}$ ,  $N_\rho = 101$ ]

Time sampling: total simulation time/10

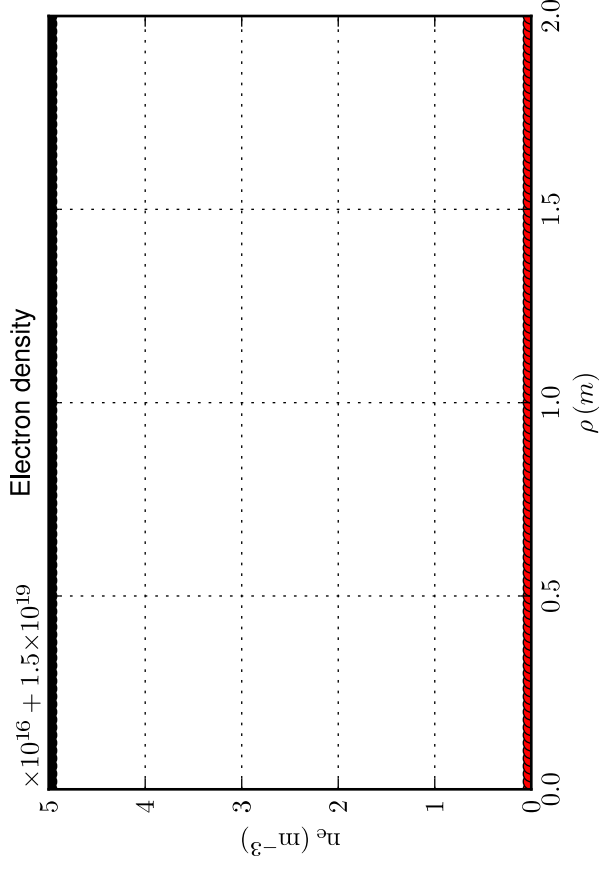
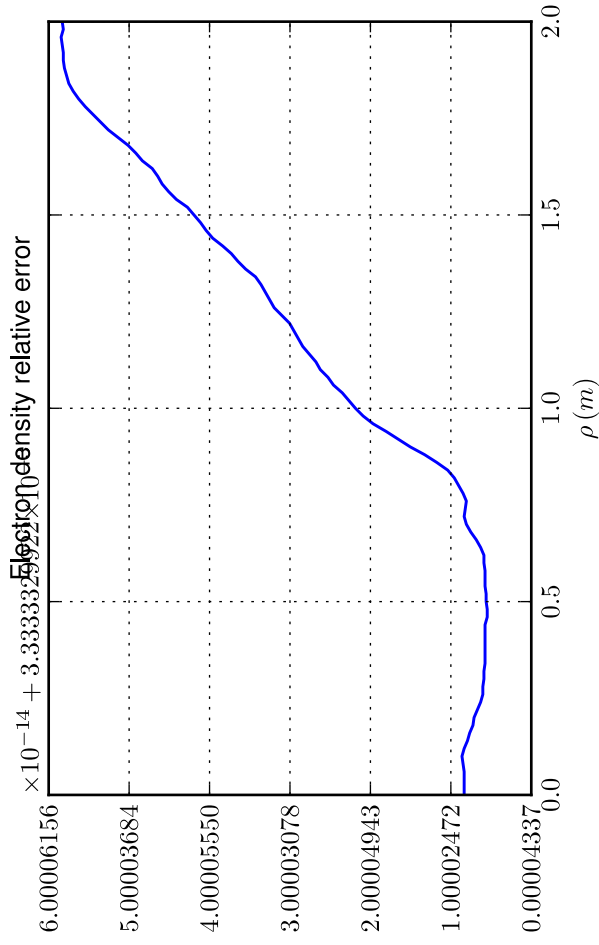


0.00  
5.00  
10.00  
15.00  
20.00  
25.00  
30.00  
35.00  
40.00  
45.00  
50.00

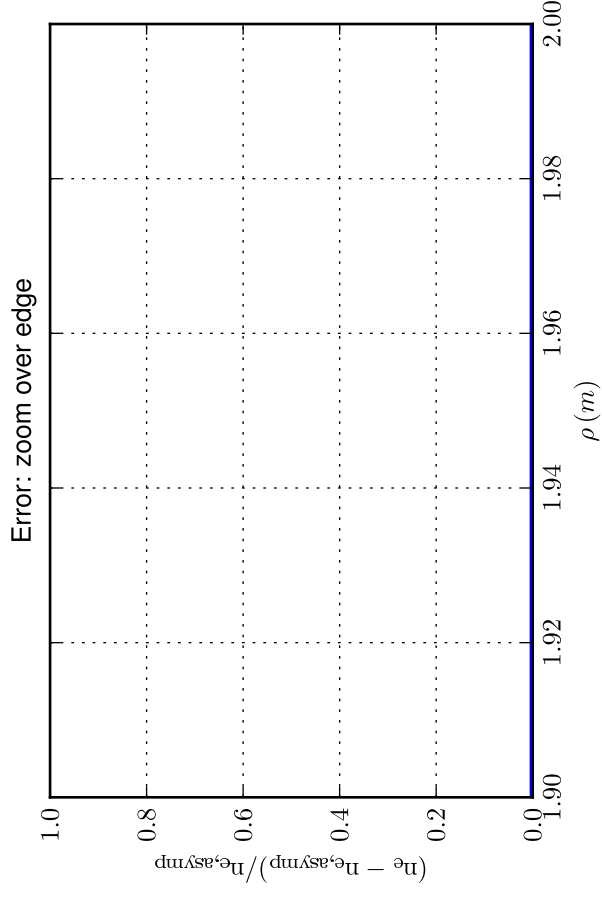
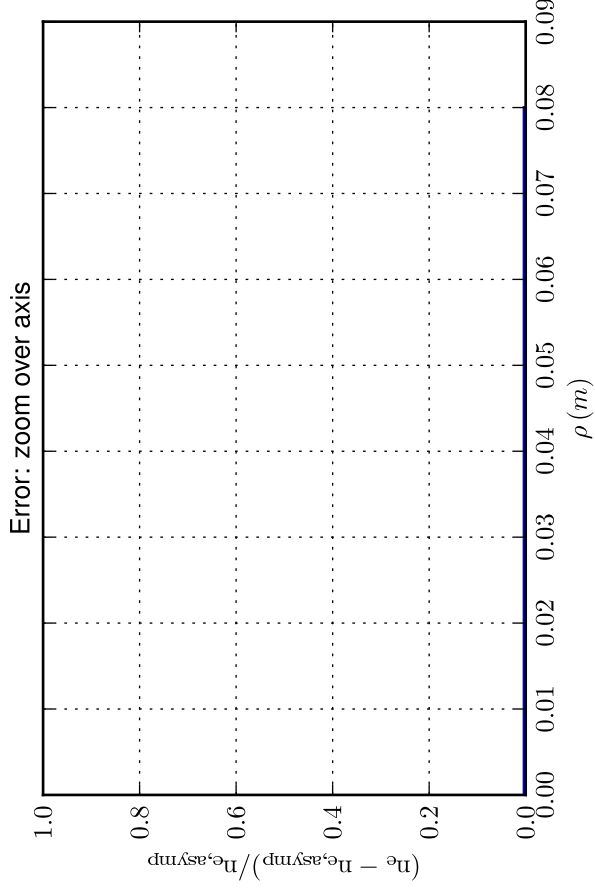
0.00  
5.00  
10.00  
15.00  
20.00  
25.00  
30.00  
35.00  
40.00  
45.00  
50.00

Profiles [Case: I.1.5, Solver: 3,  $D = 0.1 \text{ m}^2/\text{s}$ ,  $v = 0.00 \text{ m/s}$ ,  $\Delta t = 50.01$ ,  $\tau = 1.0 \times 10^{-2} \text{ s}$ ,  $N_\rho = 101$ ]

Comparison with asymptotic solution

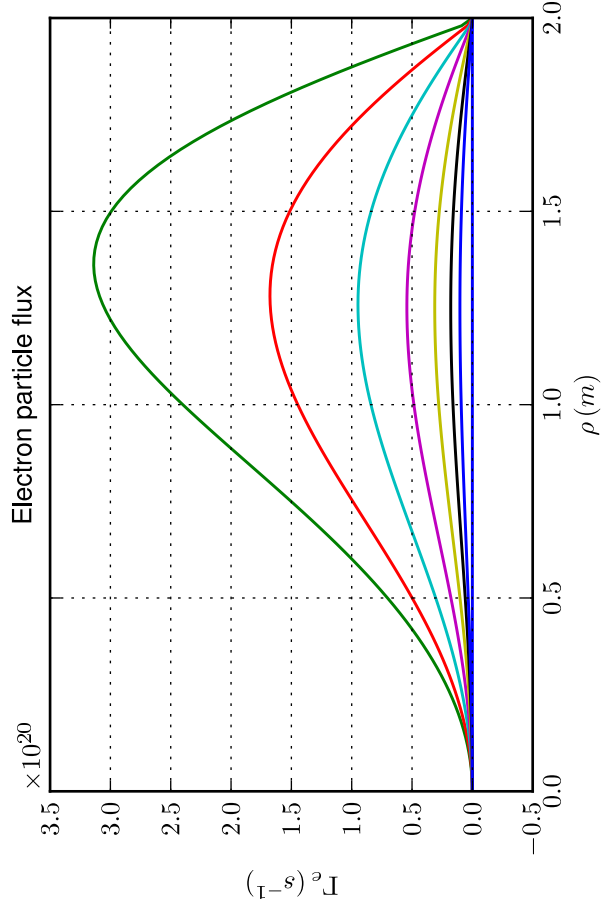
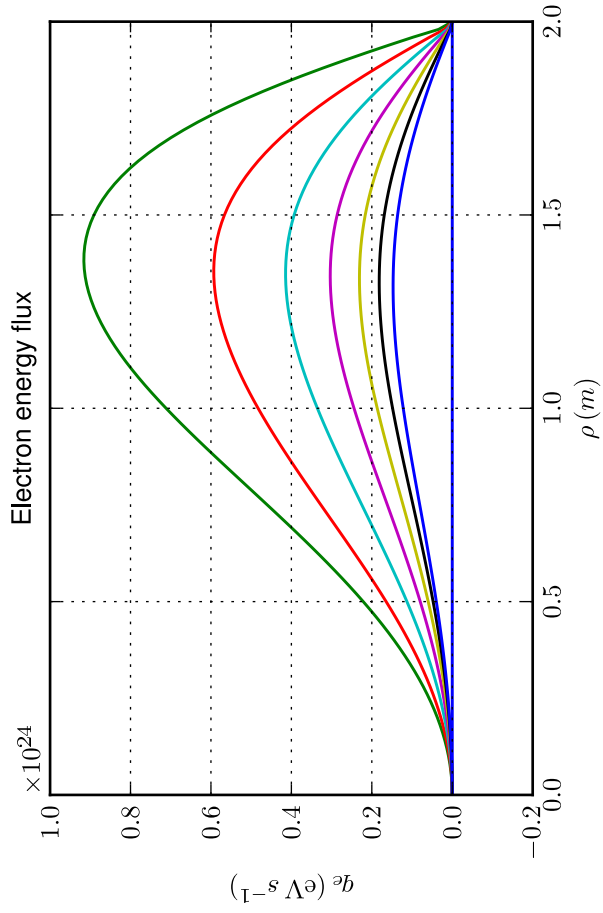
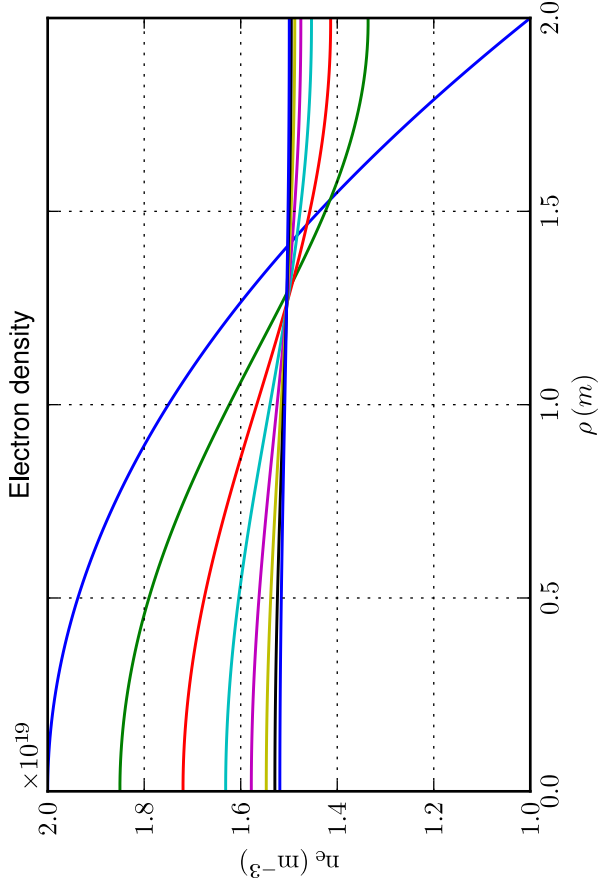
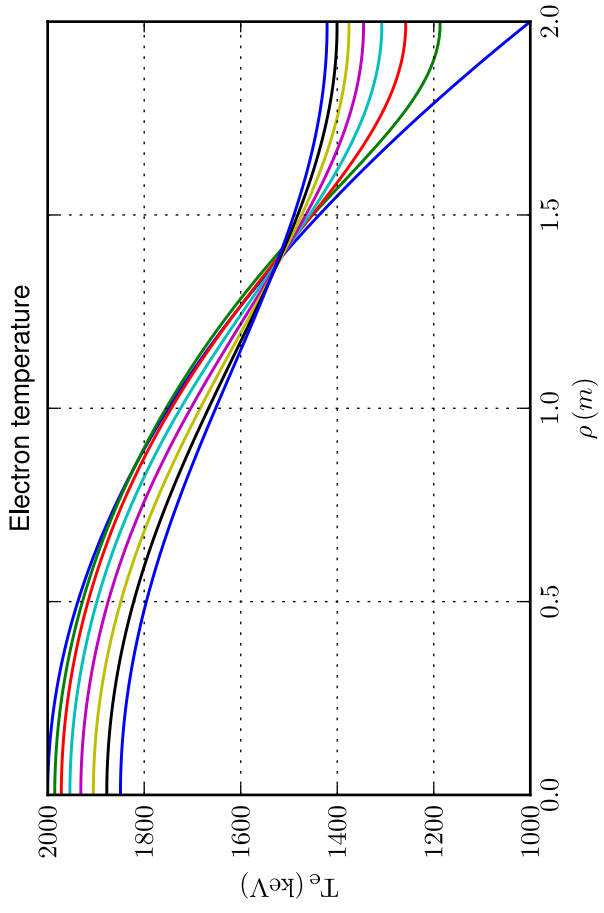


● final calculation  
● asymptotic



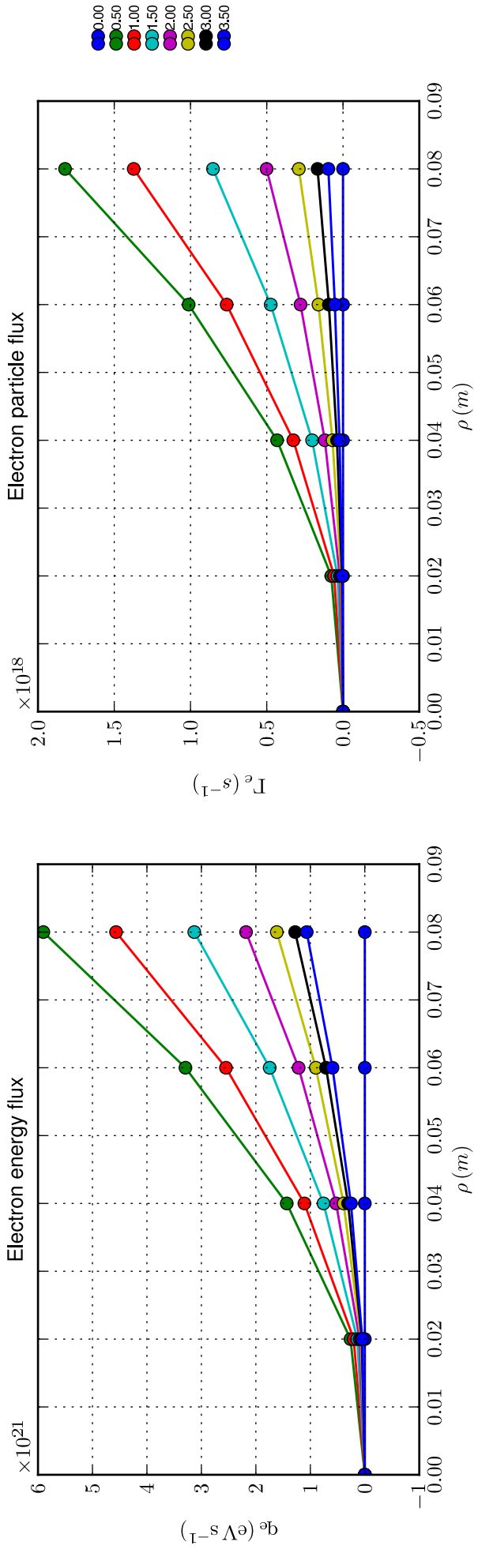
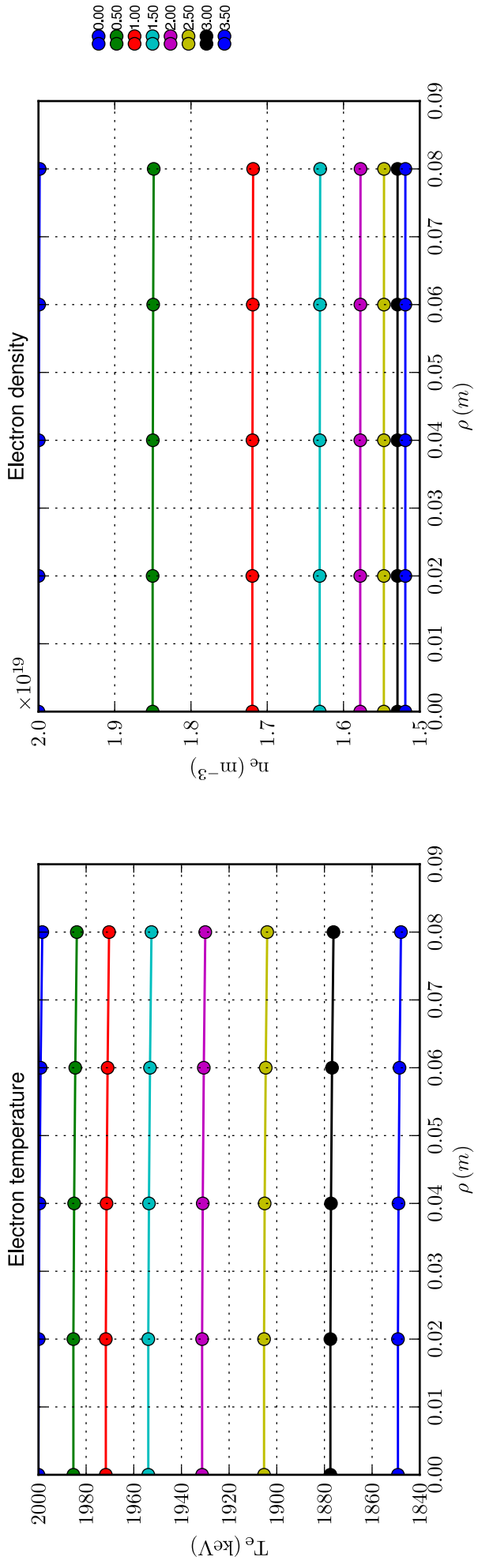
Profiles [Case: 1.1.5, Solver: 3,  $D = 0.1 \text{ m}^2/\text{s}$ ,  $v = 0.00 \text{ m/s}$ ,  $\Delta t = 50.01$ ,  $\tau = 1.0 \times 10^{-2} \text{ s}$ ,  $N_\rho = 101$ ]

Time sampling: first 10 time slices or zoom over time  $0.1 \times (a^2/D)/|1 - (Va/D)| = 4.00 \text{ s}$



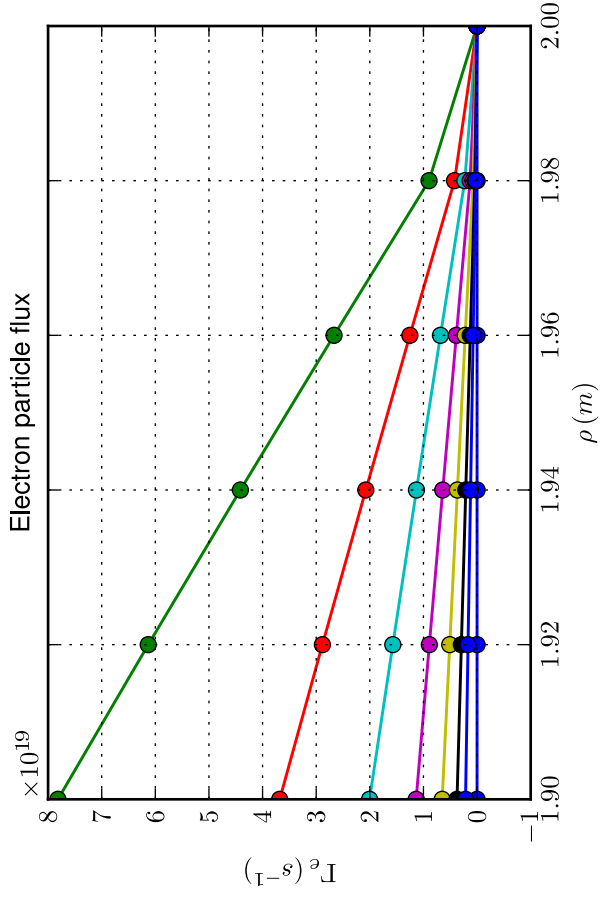
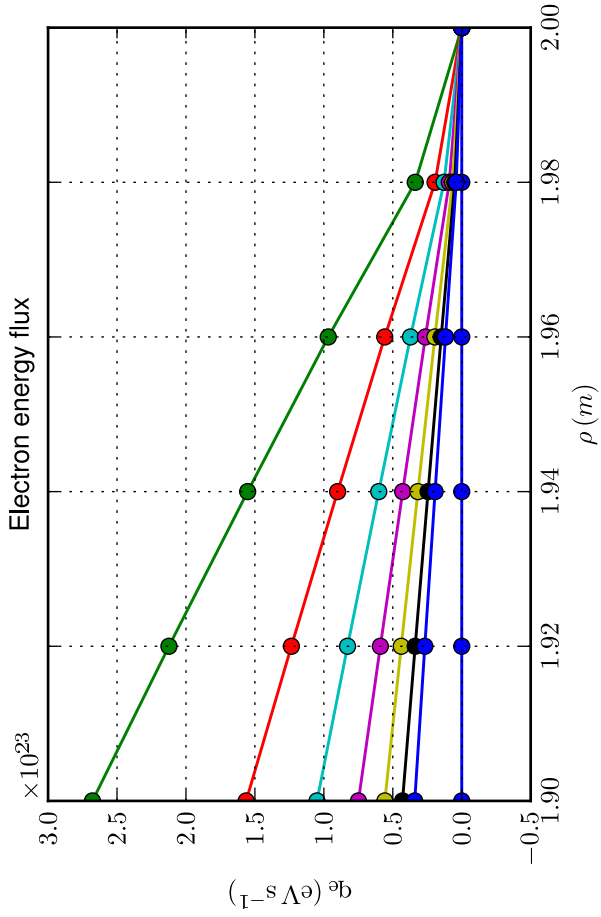
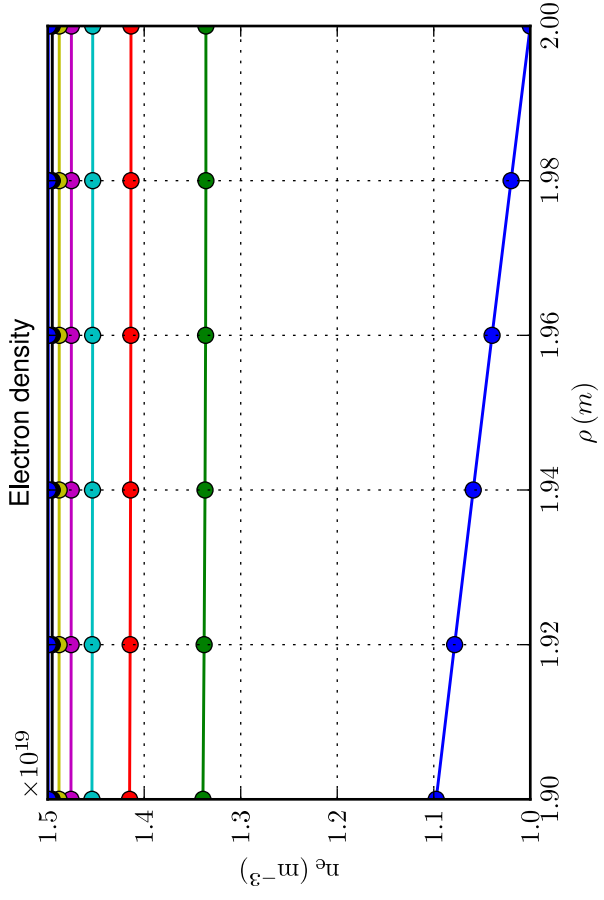
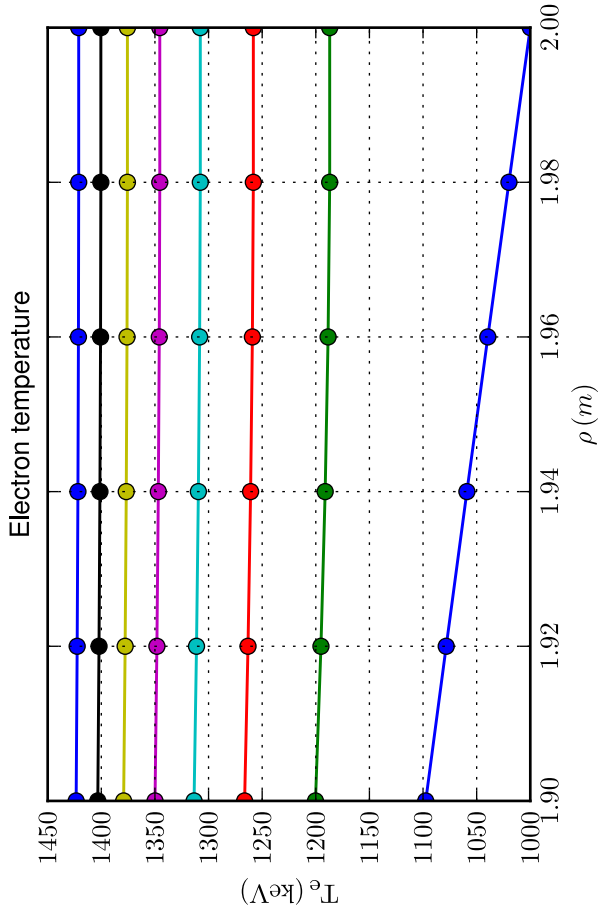
0.00  
0.50  
1.00  
1.50  
2.00  
2.50  
3.00  
3.50

Profiles [Case: 1.1.5, Solver: 3,  $D = 0.1 \text{ m}^2/\text{s}$ ,  $v = 0.00 \text{ m/s}$ ,  $\Delta t = 50.01$ ,  $\tau = 1.0 \times 10^{-2} \text{ s}$ ,  $N_\rho = 101$ ]  
 Spatial zoom over magnetic axis; time sampling: first 10 time slices or zoom over time  $0.1 \times (a^2/D)/|1 - (Va/D)| = 4.00 \text{ s}$



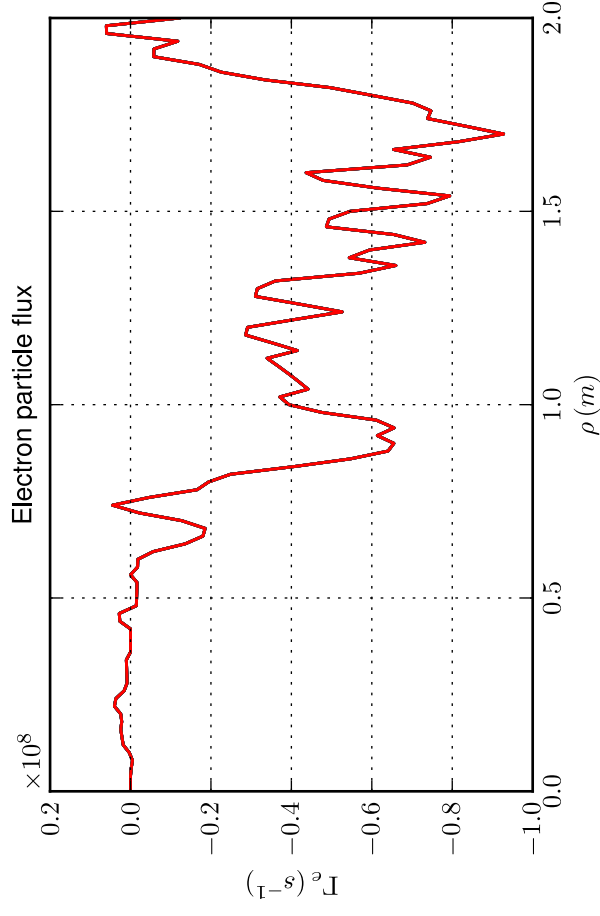
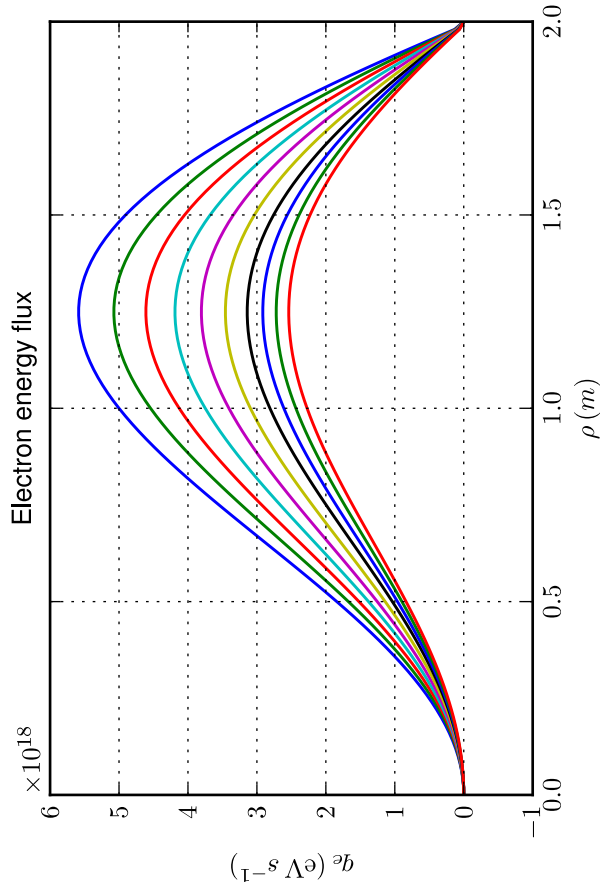
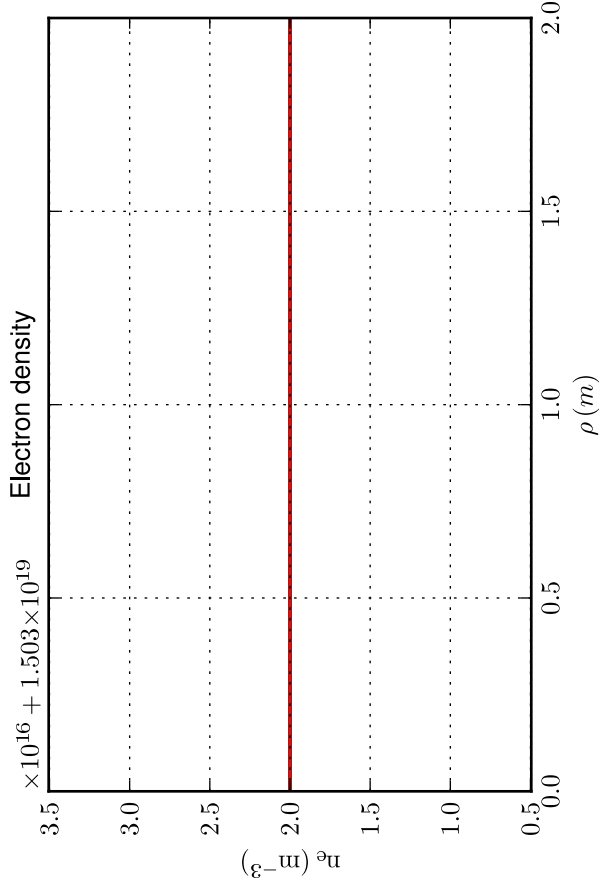
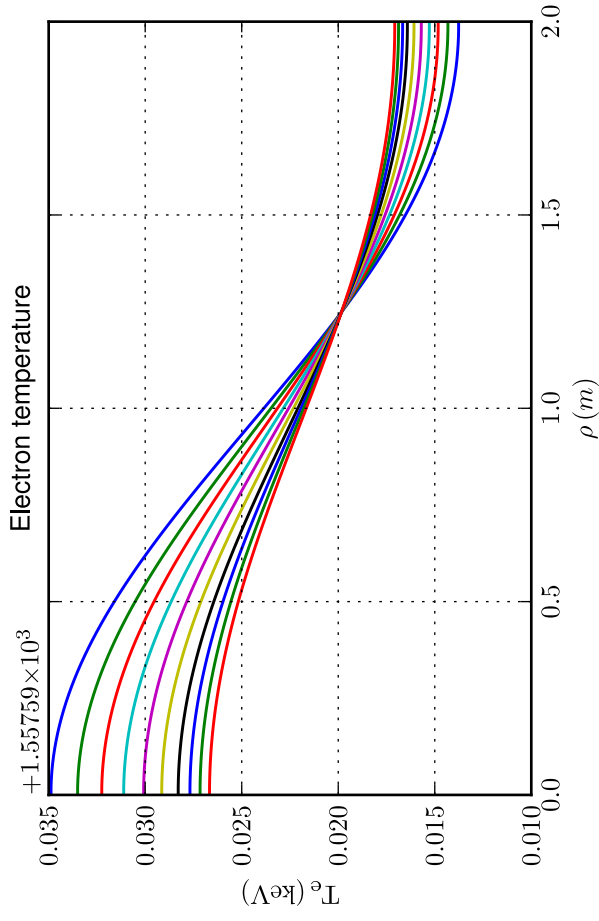


Profiles [Case: 1.1.5, Solver: 3,  $D = 0.1 \text{ m}^2/\text{s}$ ,  $v = 0.00 \text{ m/s}$ ,  $\Delta t = 50.01$ ,  $\tau = 1.0 \times 10^{-2} \text{ s}$ ,  $N_\rho = 101$ ]  
 Spatial zoom over edge; time sampling: first 10 time slices or zoom over time  $0.1 \times (a^2/D)/|1 - (V_a/D)| = 4.00 \text{ s}$



Profiles [Case: I.1.5, Solver: 3,  $D = 0.1 \text{ m}^2/\text{s}$ ,  $v = 0.00 \text{ m/s}$ ,  $\Delta t = 50.01$ ,  $\tau = 1.0 \times 10^{-2} \text{ s}$ ,  $N_\rho = 101$ ]

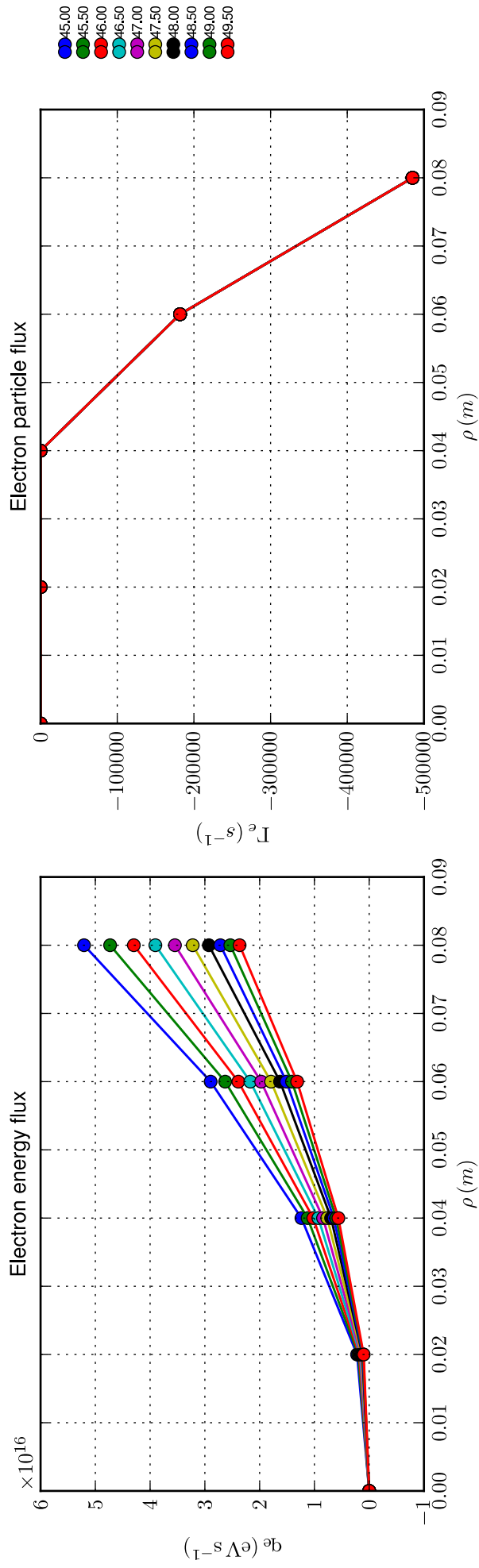
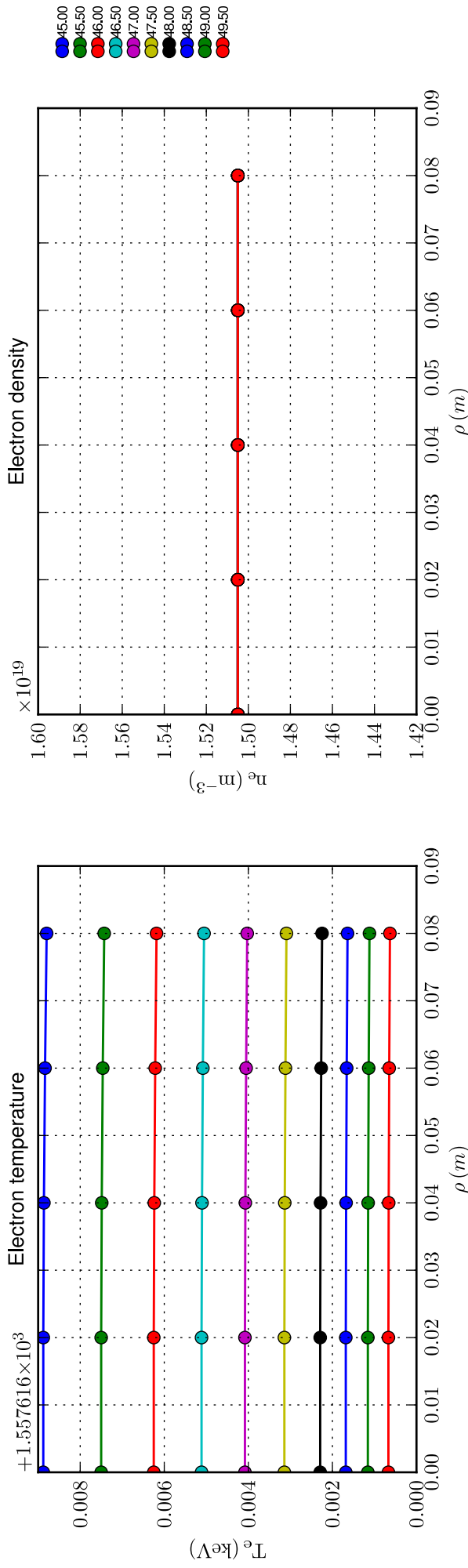
Time sampling: last 10 time slices



45.00  
45.50  
46.00  
46.50  
47.00  
47.50  
48.00  
48.50  
49.00  
49.50

Profiles [Case: 1.1.5, Solver: 3,  $D = 0.1 \text{ m}^2/\text{s}$ ,  $v = 0.00 \text{ m/s}$ ,  $\Delta t = 50.01$ ,  $\tau = 1.0 \times 10^{-2} \text{ s}$ ,  $N_\rho = 101$ ]

Spatial zoom over magnetic axis; time sampling: last 10 time slices



Profiles [Case: 1.1.5, Solver: 3,  $D = 0.1 \text{ m}^2/\text{s}$ ,  $v = 0.00 \text{ m/s}$ ,  $\Delta t = 50.01$ ,  $\tau = 1.0 \times 10^{-2} \text{ s}$ ,  $N_\rho = 101$ ]

Spatial zoom over edge; time sampling: last 10 time slices

