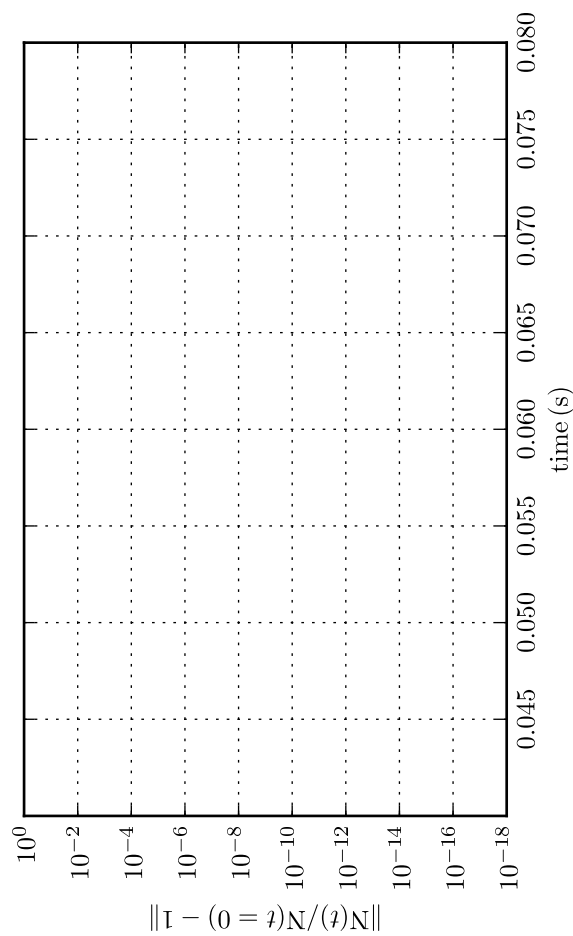
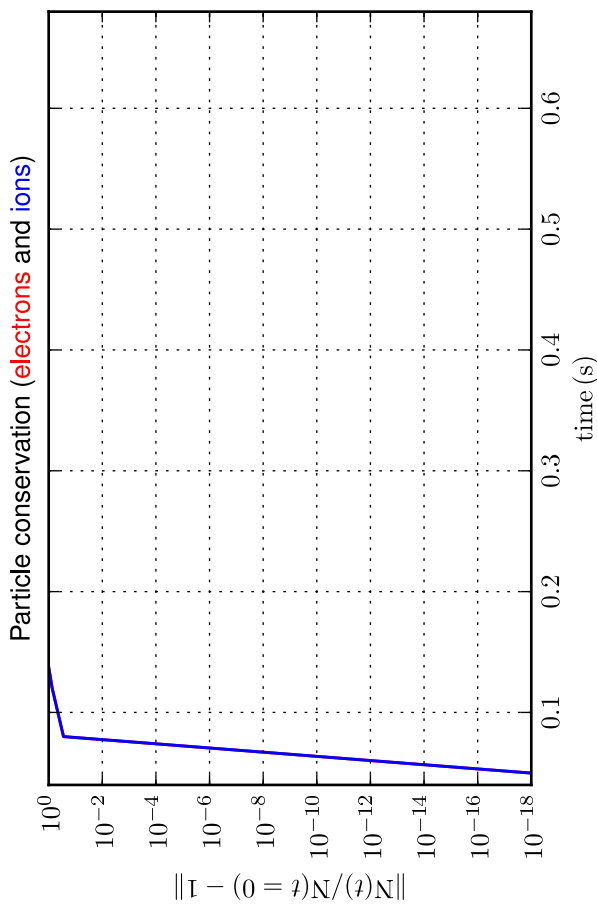
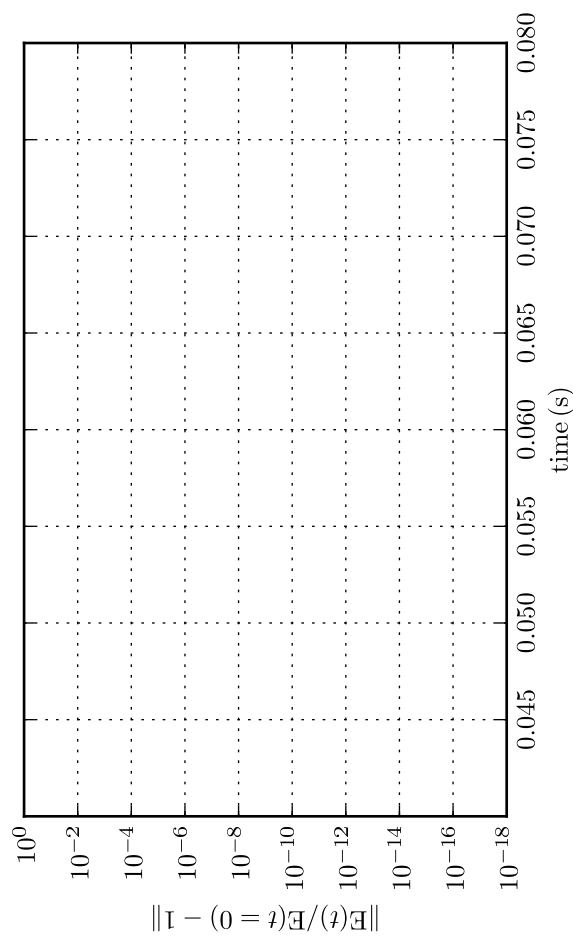
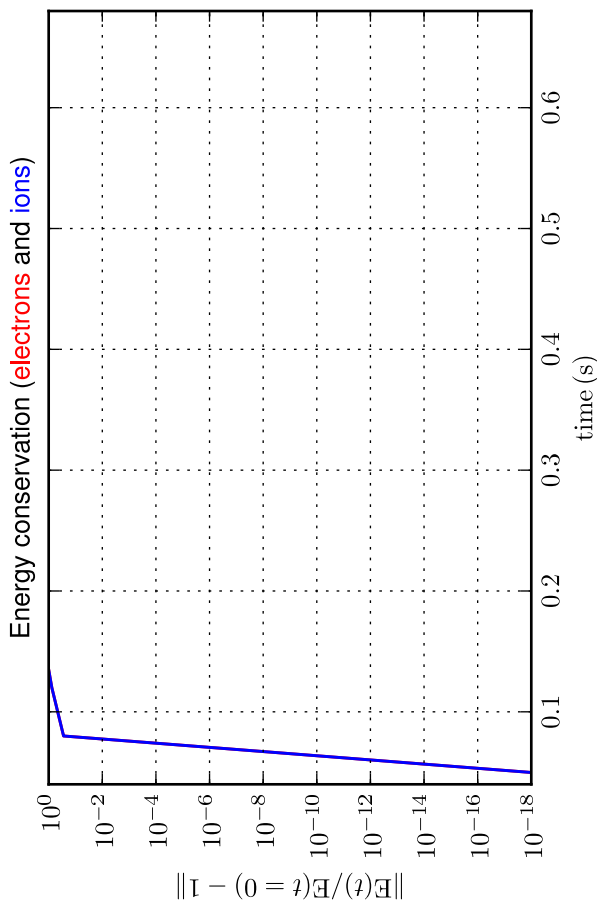


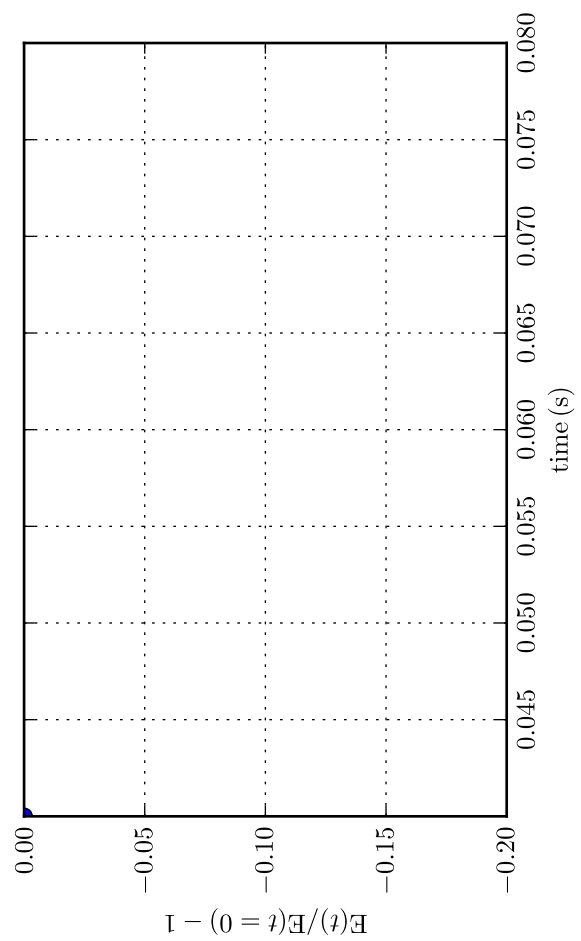
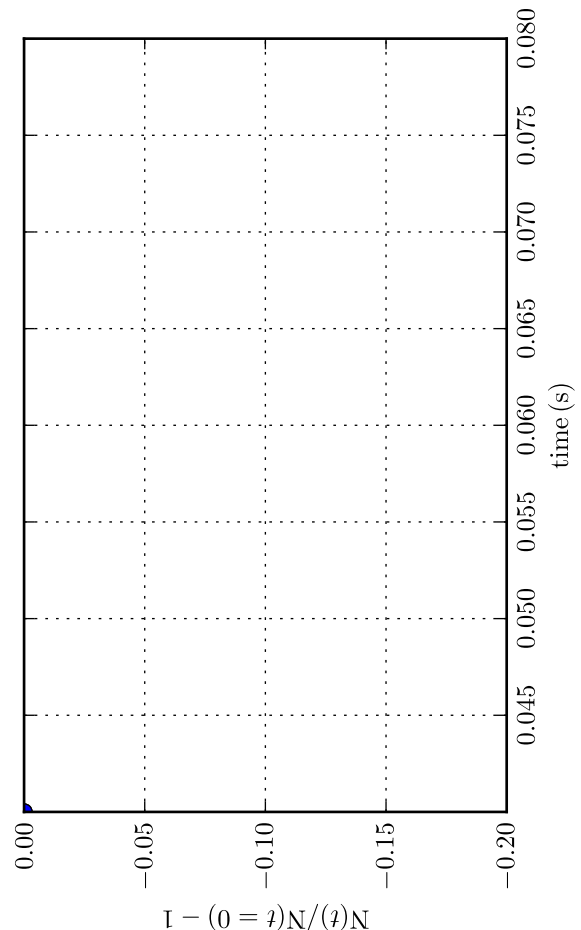
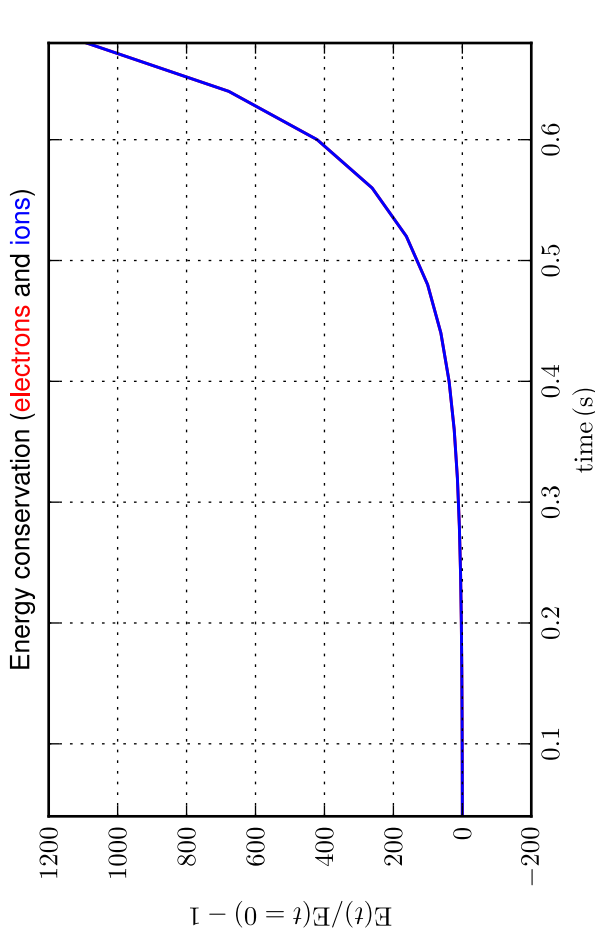
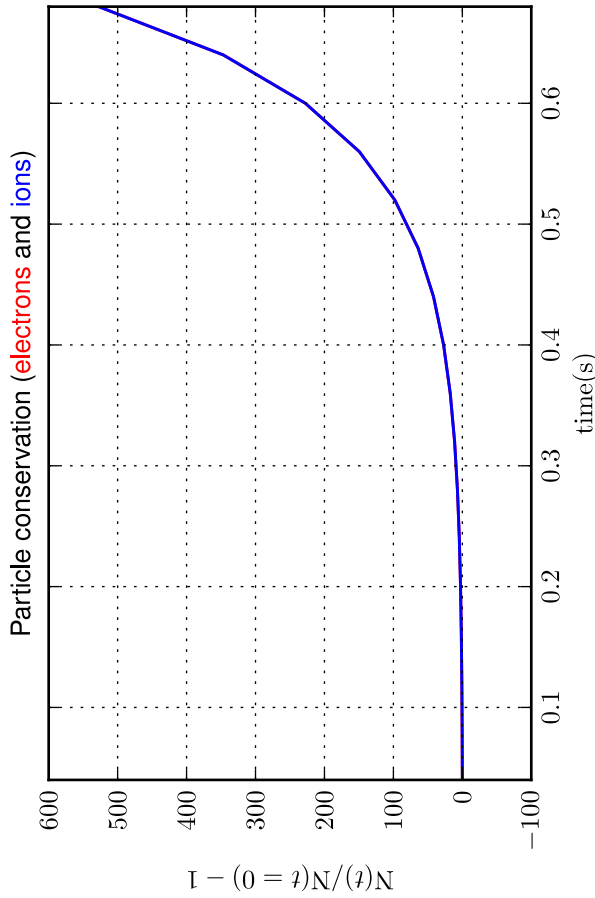
Part. & Energy conservation [Case: 1.1.5.c, Solver: 3, $D = 0.1 \text{ m}^2/\text{s}$, $v = 1.00 \text{ m/s}$, $\Delta t = 4.00$, $\tau = 1.0 \times 10^{-3} \text{ s}$, $N_p = 51$]

Comparison with initial solution - log scale; total time and zoom over time

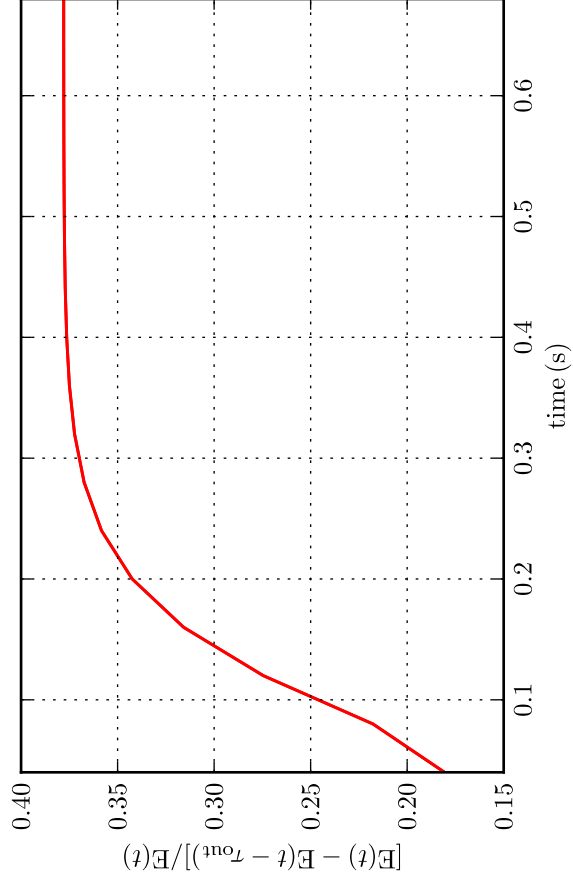
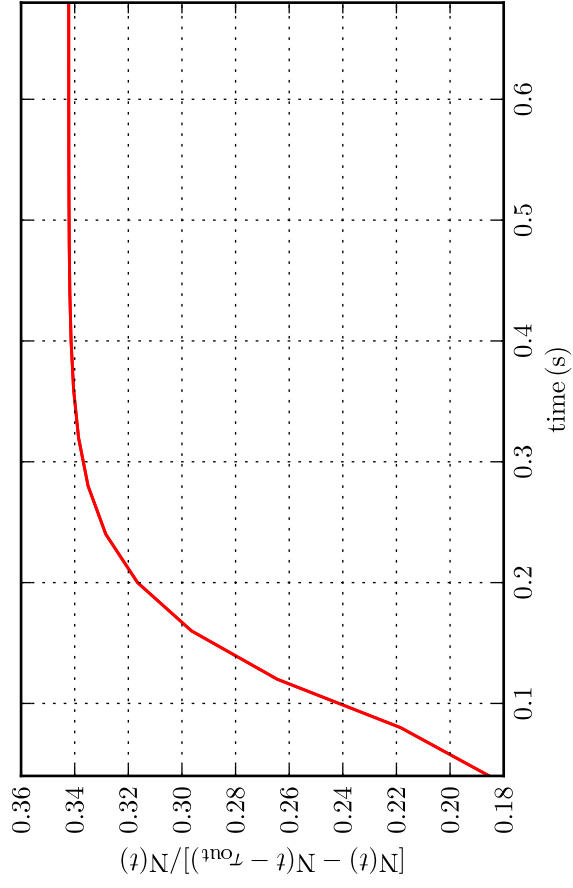
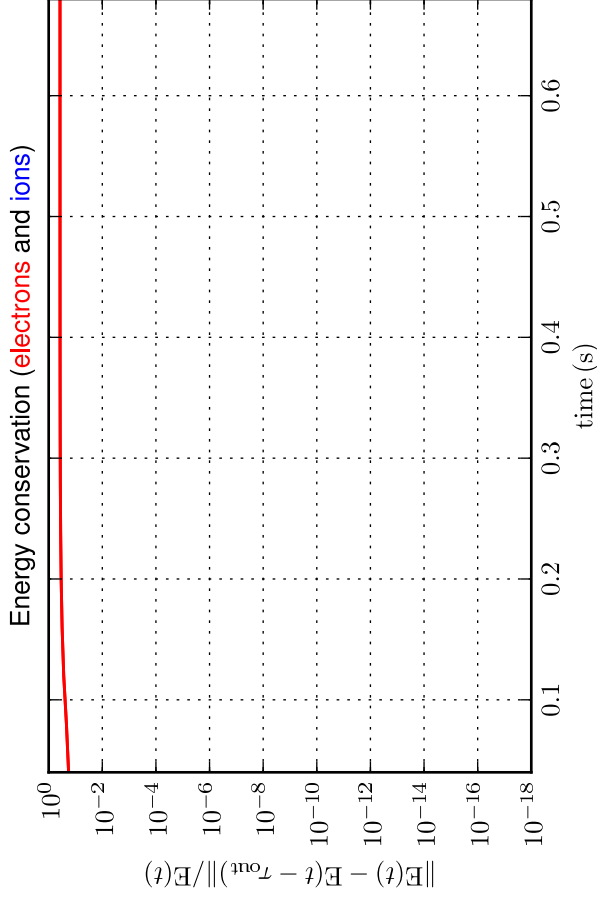
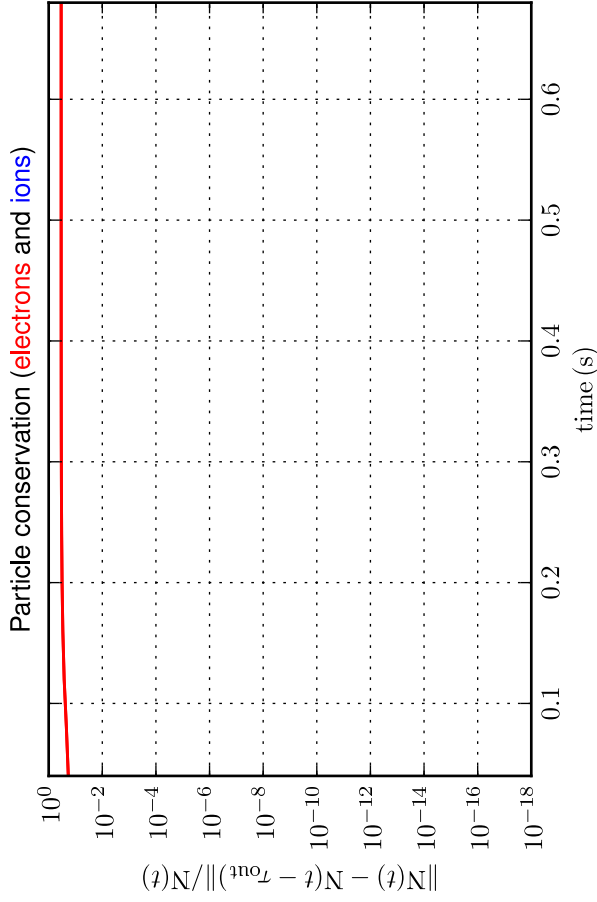


Part. & Energy conservation [Case: 1.1.5.c, Solver: 3, $D = 0.1 \text{ m}^2/\text{s}$, $v = 1.00 \text{ m/s}$, $\Delta t = 4.00$, $\tau = 1.0 \times 10^{-3} \text{ s}$, $N_p = 51$]

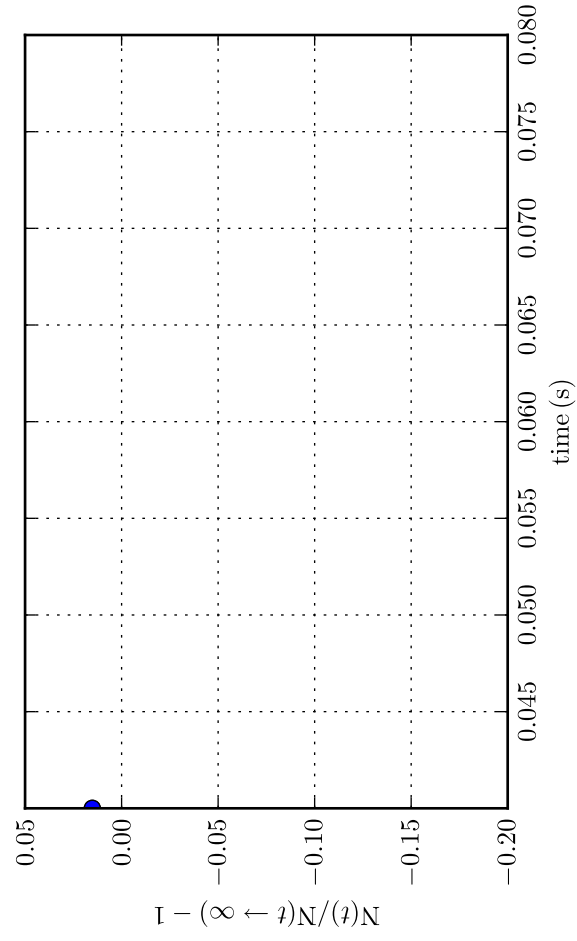
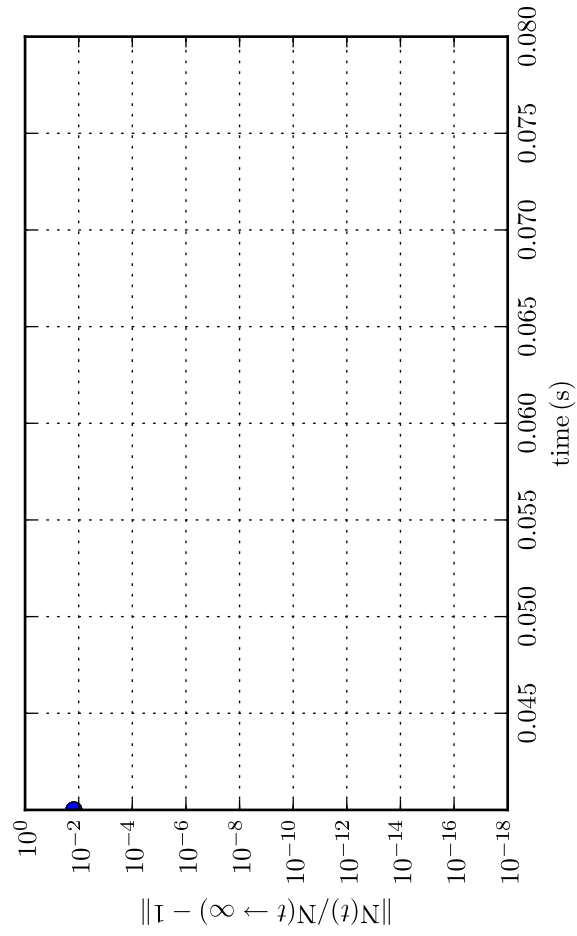
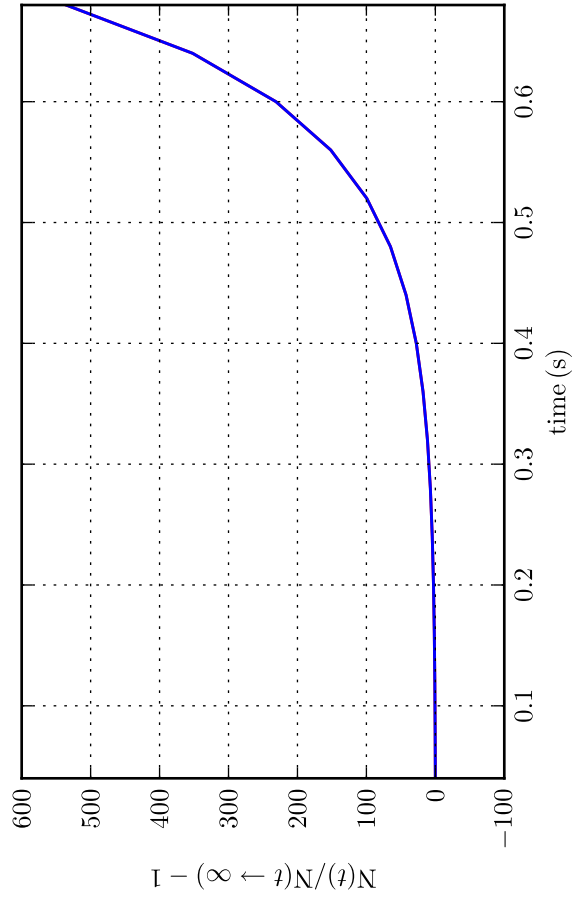
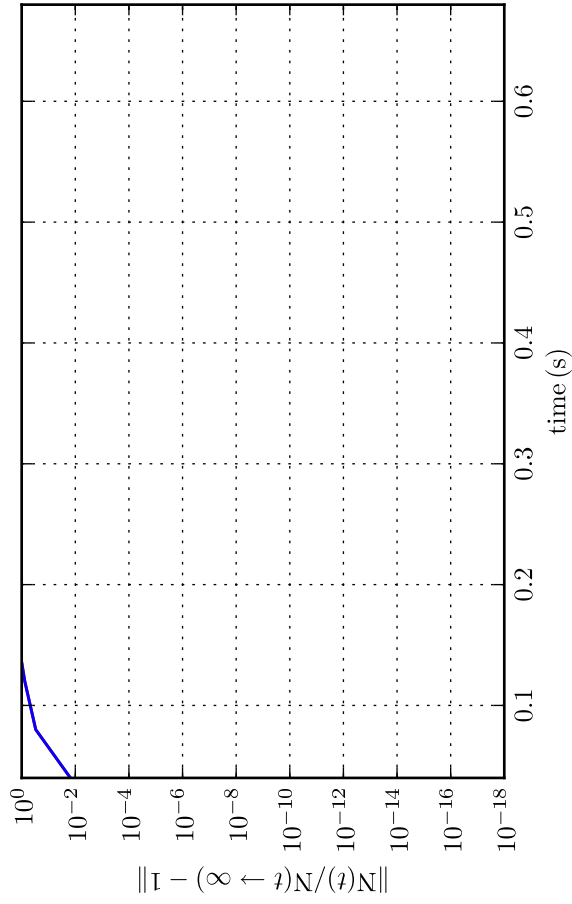
Comparison with initial solution - linear scale; total time and zoom over time



Part. & Energy conservation [Case: 1.1.5.c, Solver: 3, $D = 0.1 \text{ m}^2/\text{s}$, $v = 1.00 \text{ m/s}$, $\Delta t = 4.00$, $\tau = 1.0 \times 10^{-3} \text{ s}$, $N_p = 51$]
 Comparison with previous time-sampled (τ_{out}) solution - log and linear scales



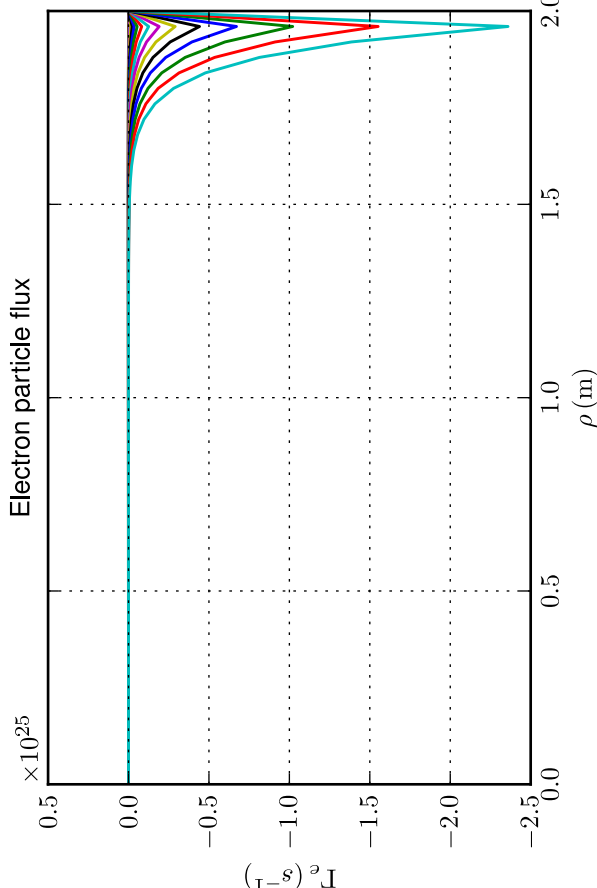
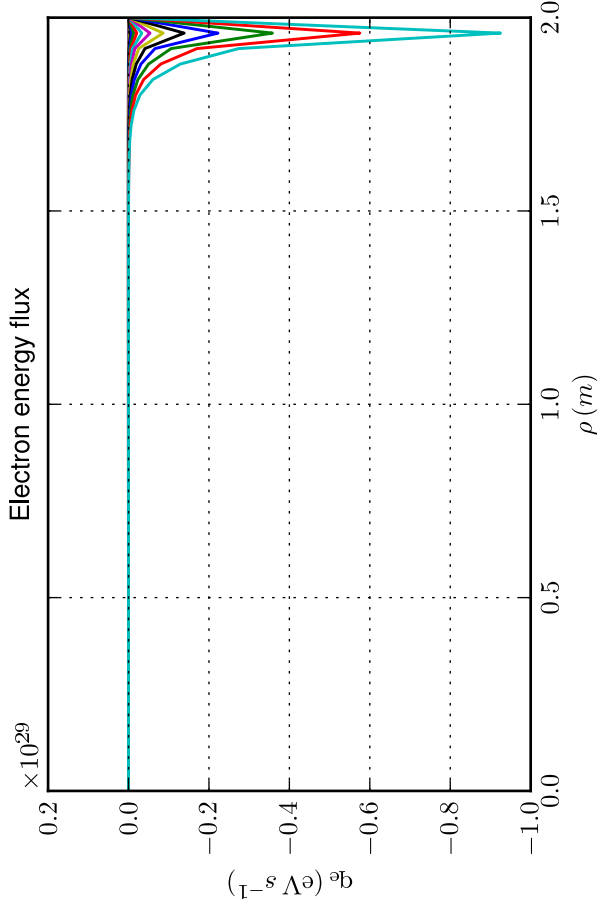
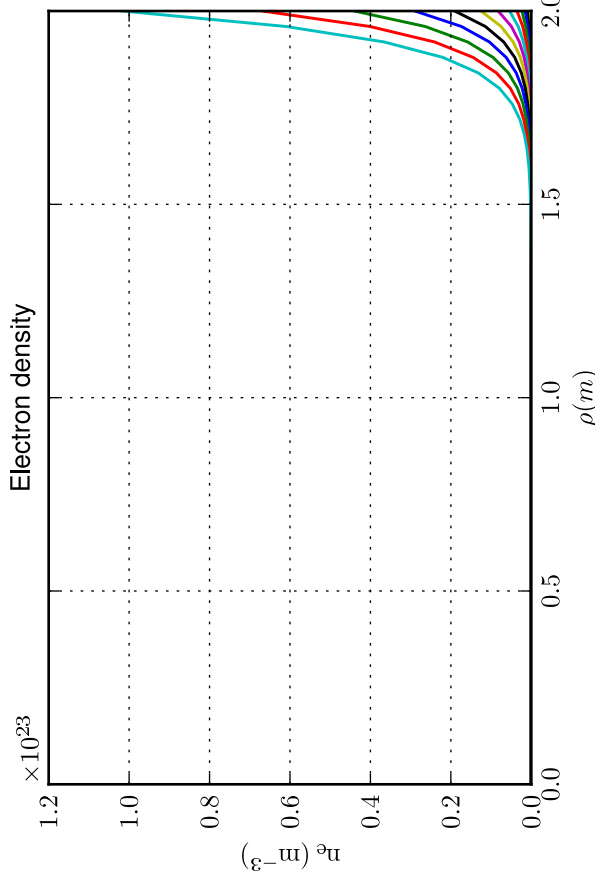
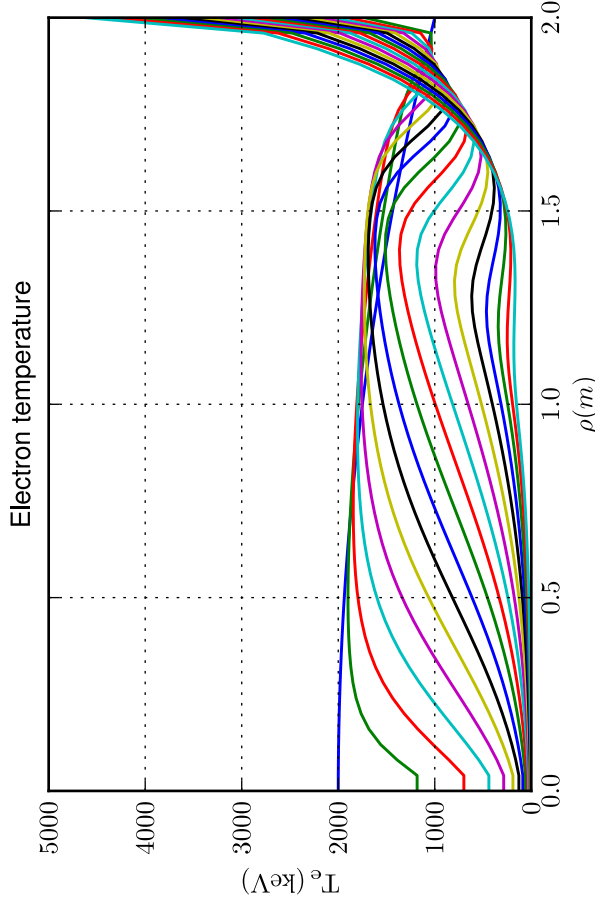
Particle conservation [Case: 1.1.5.c, Solver: 3, $D = 0.1 \text{ m}^2/\text{s}$, $v = 1.00 \text{ m/s}$, $\Delta t = 4.00$, $\tau = 1.0 \times 10^{-3} \text{ s}$, $N_p = 51$]
 Comparison with asymptotic solution (electrons and ions); total time and zoom over time



Profiles [Case: 1.1.5.c, Solver: 3, $D = 0.1 \text{ m}^2/\text{s}$, $v = 1.00 \text{ m/s}$, $\Delta t = 4.00$, $\tau = 1.0 \times 10^{-3} \text{ s}$, $N_\rho = 51$]

Time sampling: total simulation time/10

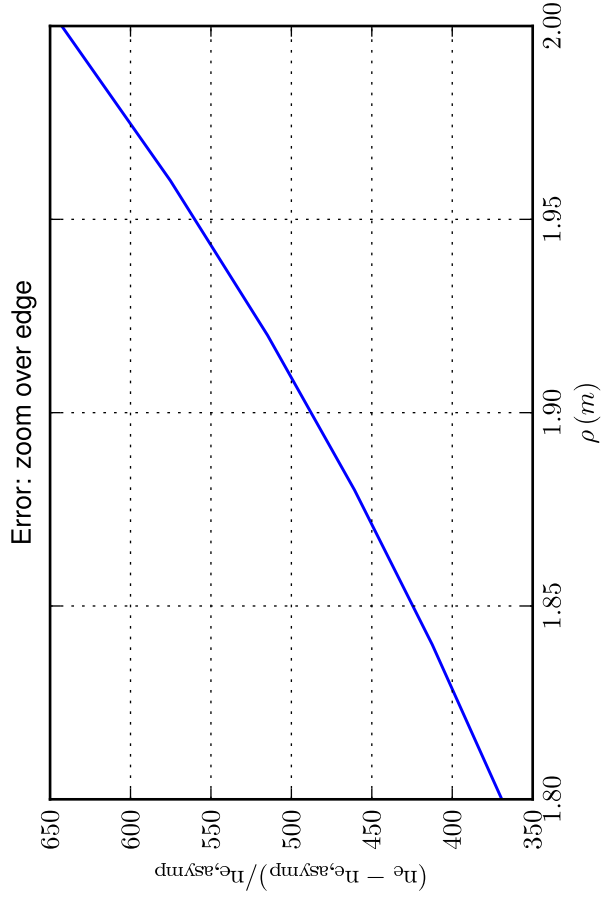
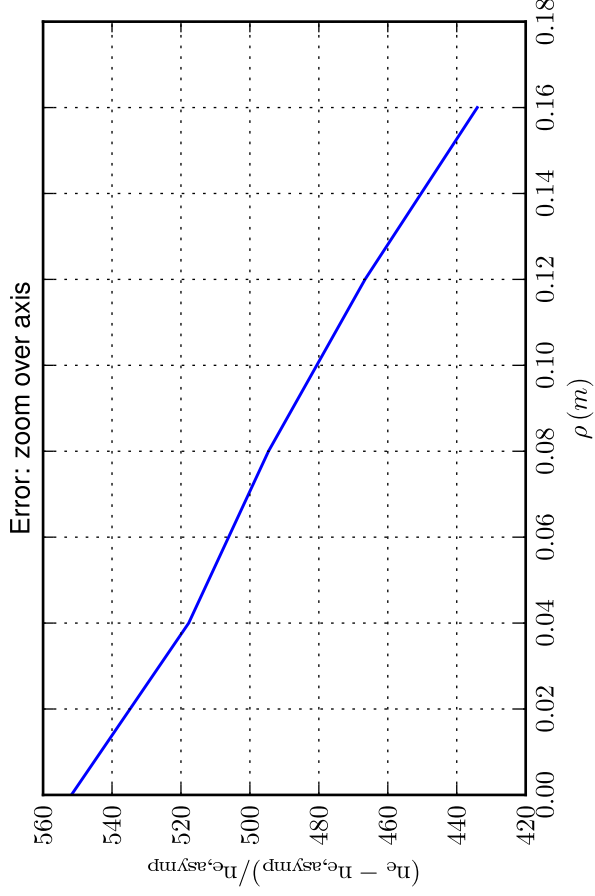
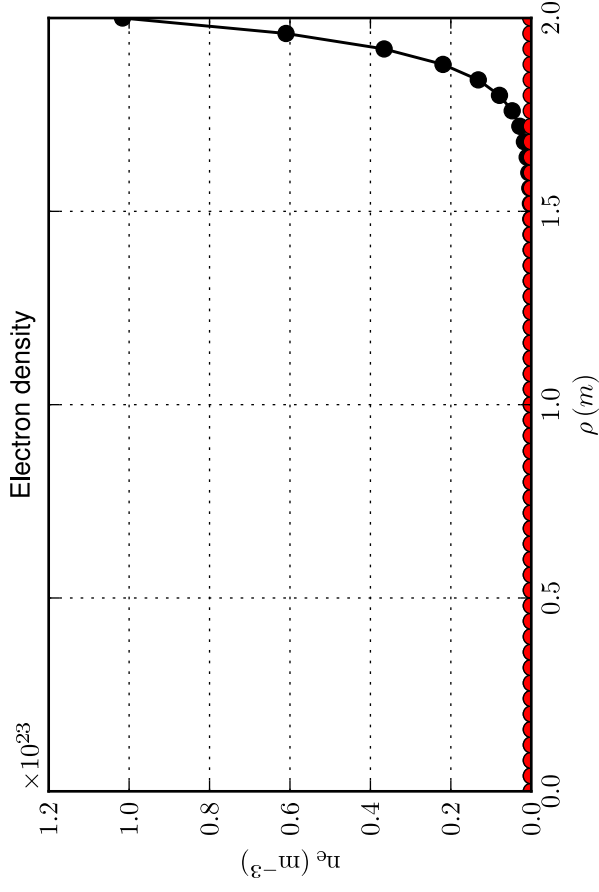
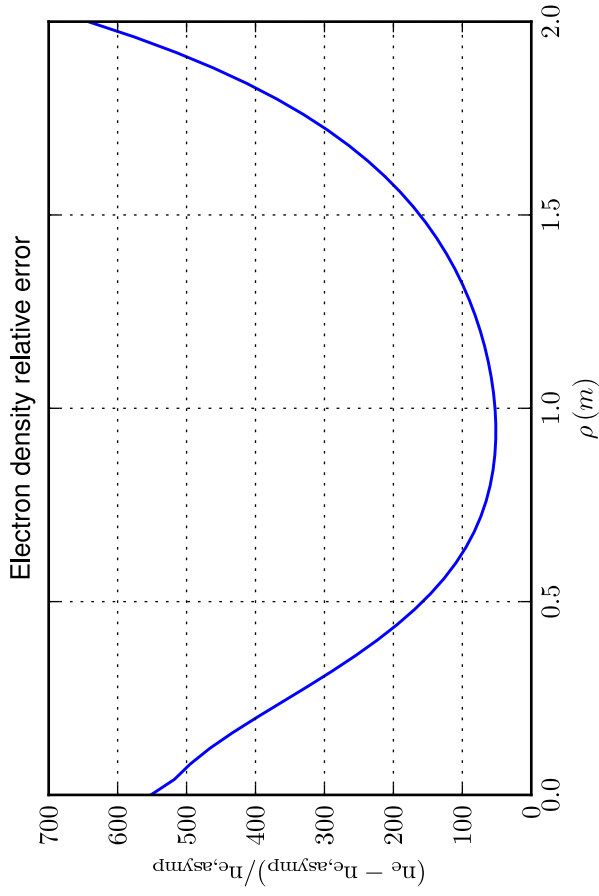
- 0.00
- 0.04
- 0.08
- 0.12
- 0.16
- 0.20
- 0.24
- 0.28
- 0.32
- 0.36
- 0.40
- 0.44
- 0.48
- 0.52
- 0.56
- 0.60
- 0.64
- 0.68



- 0.00
- 0.04
- 0.08
- 0.12
- 0.16
- 0.20
- 0.24
- 0.28
- 0.32
- 0.36
- 0.40
- 0.44
- 0.48
- 0.52
- 0.56
- 0.60
- 0.64
- 0.68

Profiles [Case: 1.1.5.c, Solver: 3, $D = 0.1 \text{ m}^2/\text{s}$, $v = 1.00 \text{ m/s}$, $\Delta t = 4.00$, $\tau = 1.0 \times 10^{-3} \text{ s}$, $N_\rho = 51$]

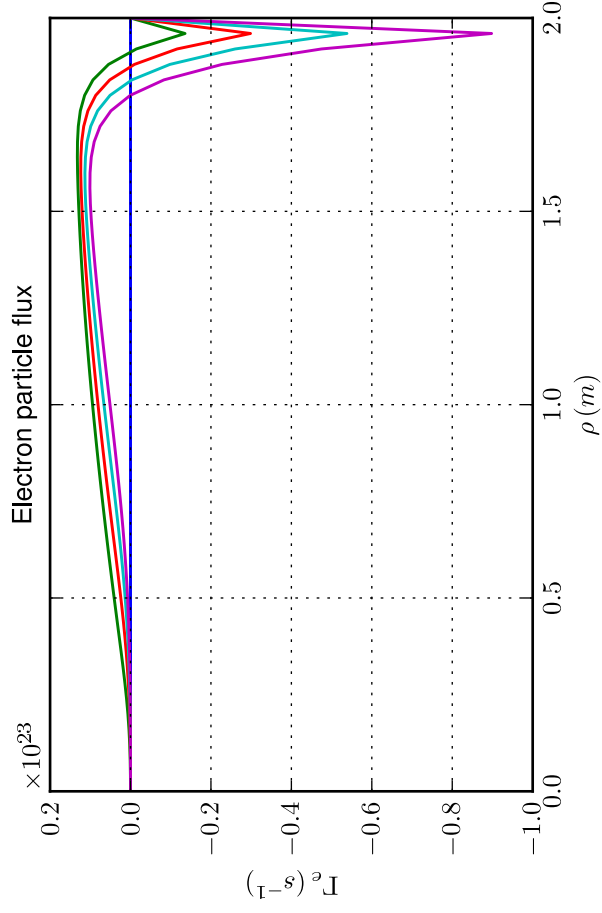
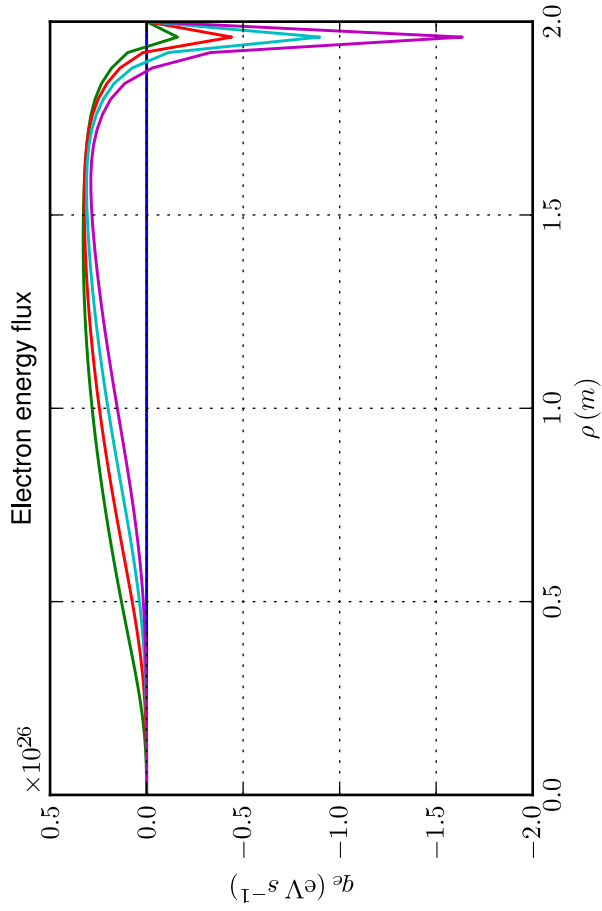
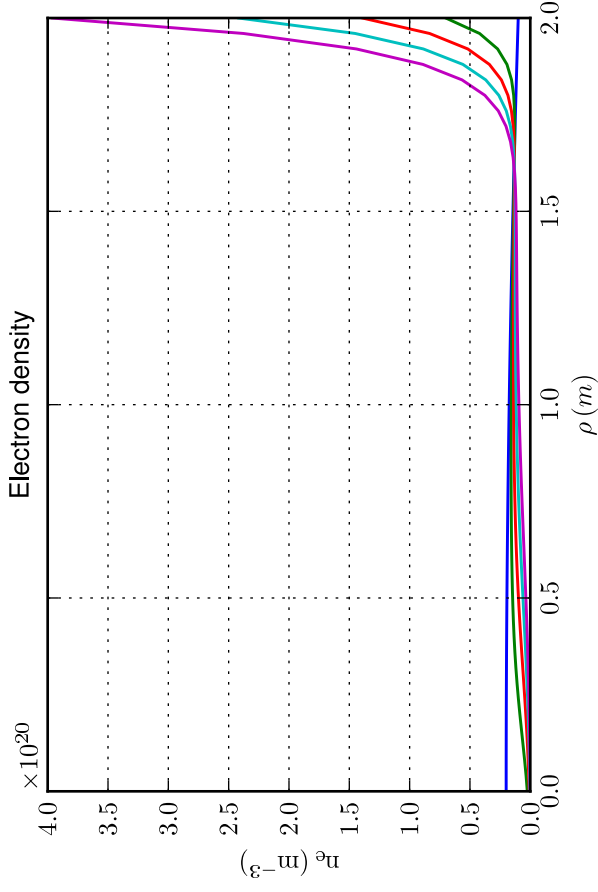
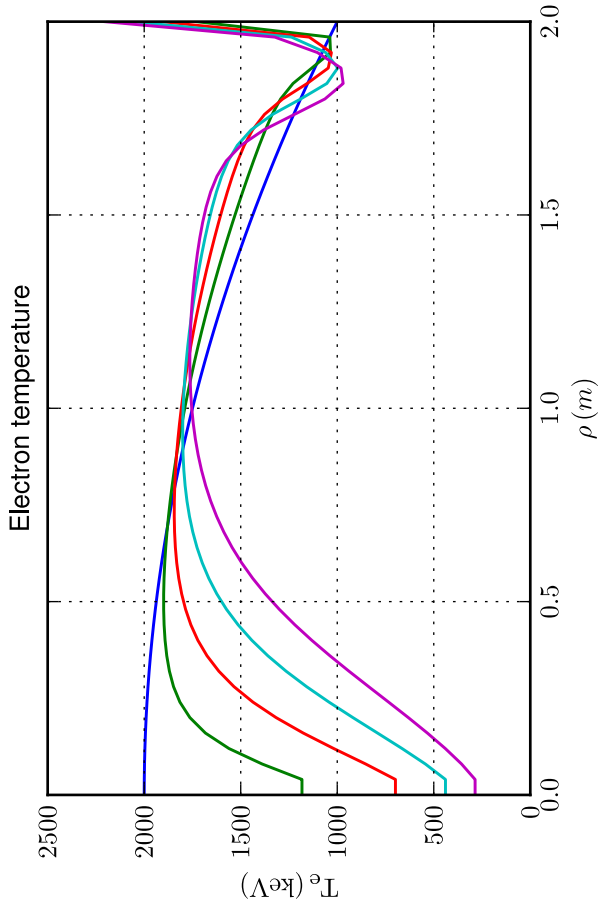
Comparison with asymptotic solution



● final calculation
● asymptotic

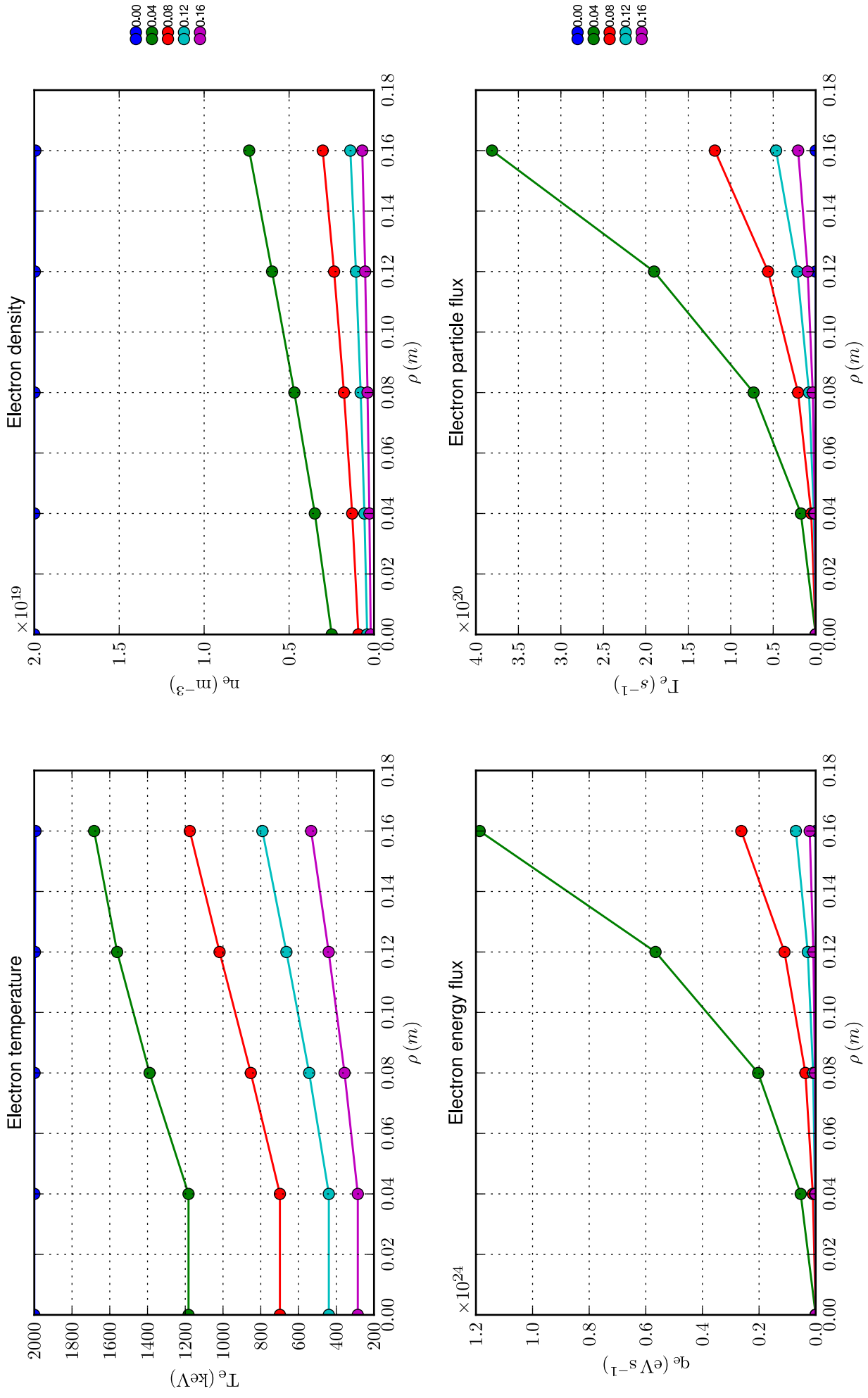
Profiles [Case: 1.1.5.c, Solver: 3, $D = 0.1 \text{ m}^2/\text{s}$, $v = 1.00 \text{ m/s}$, $\Delta t = 4.00$, $\tau = 1.0 \times 10^{-3} \text{ s}$, $N_\rho = 51$]

Time sampling: first 10 time slices or zoom over time $0.1 \times (a^2/D)/|1 - (V a/D)| = 0.21 \text{ s}$

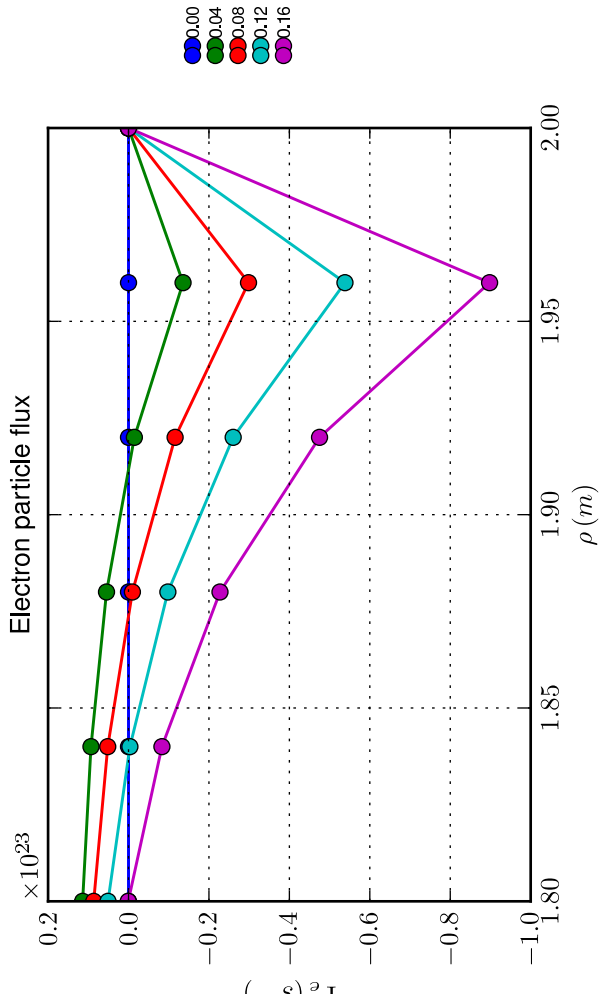
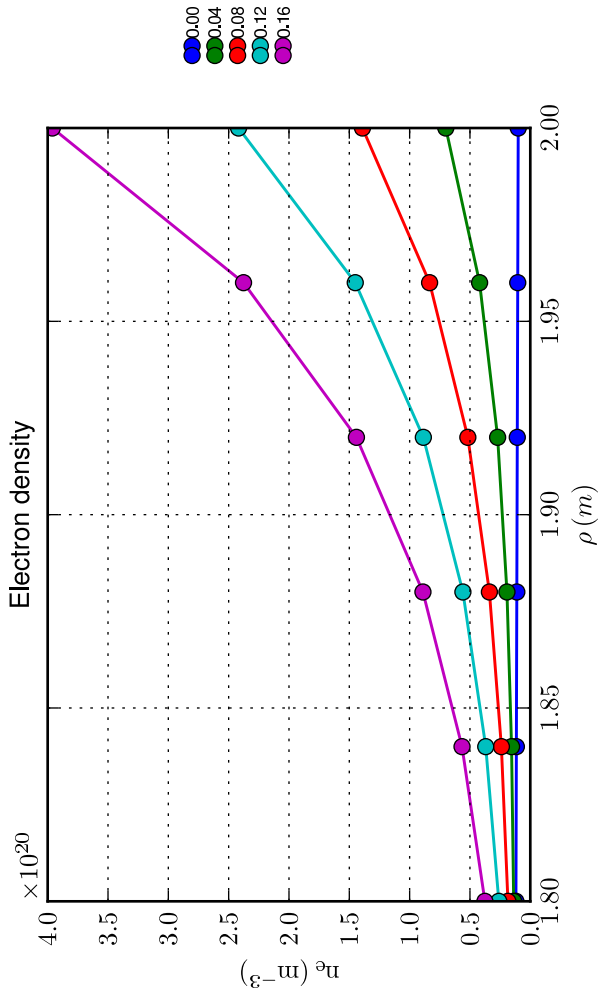
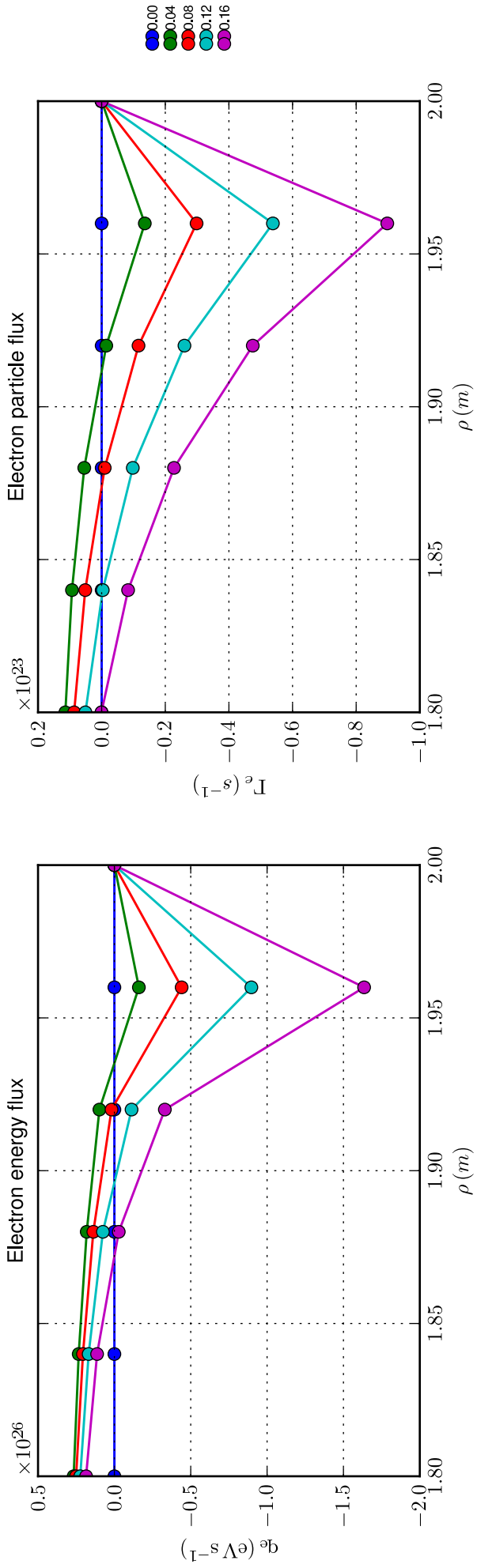
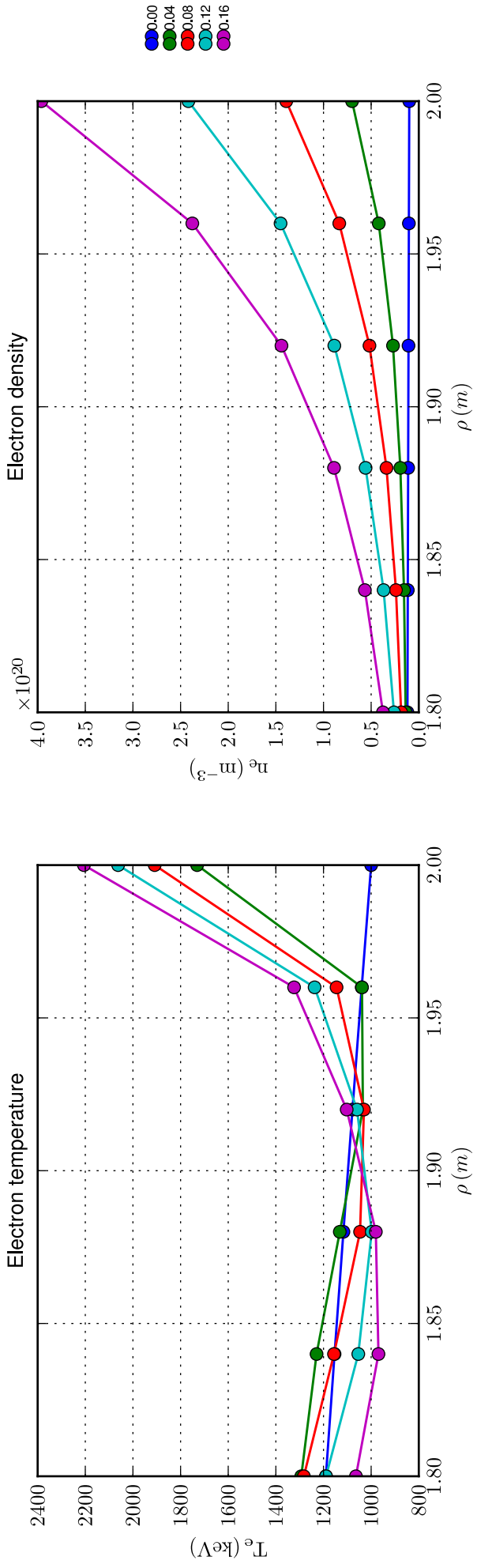


0.00
0.04
0.08
0.12
0.16

Profiles [Case: 1.1.5.c, Solver: 3, $D = 0.1 \text{ m}^2/\text{s}$, $v = 1.00 \text{ m/s}$, $\Delta t = 4.00$, $\tau = 1.0 \times 10^{-3} \text{ s}$, $N_\rho = 51$]
 Spatial zoom over magnetic axis; time sampling: first 10 time slices or zoom over time $0.1 \times (a^2/D)/|1 - (Va/D)| = 0.21 \text{ s}$

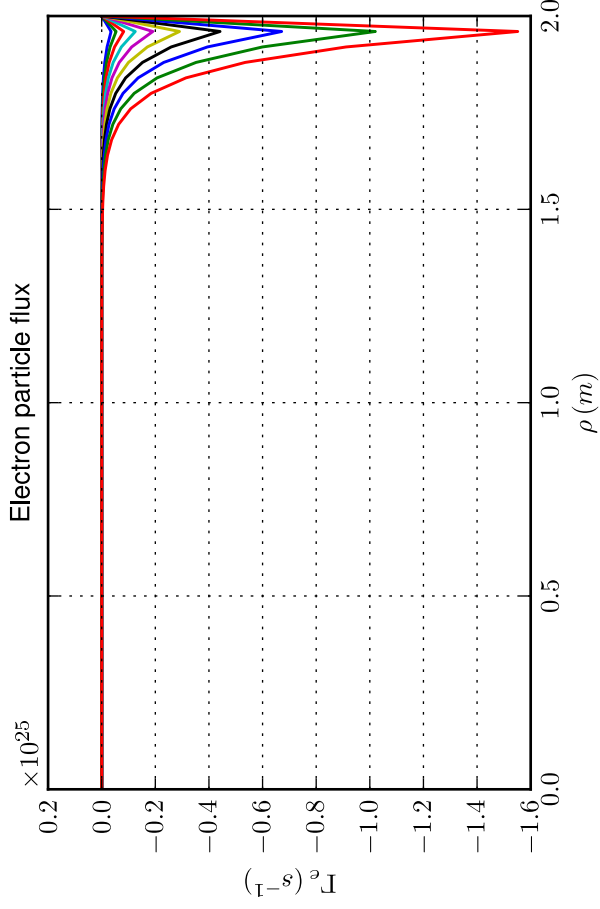
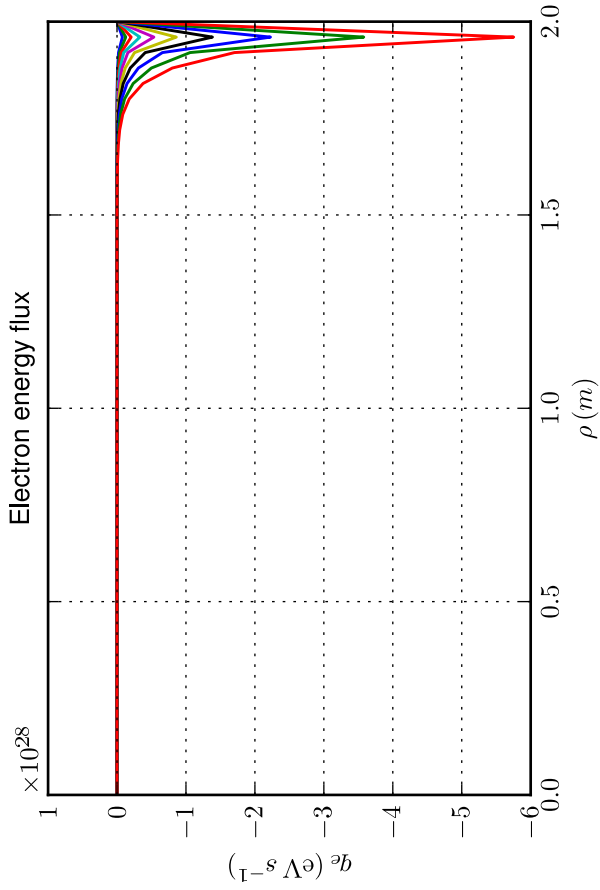
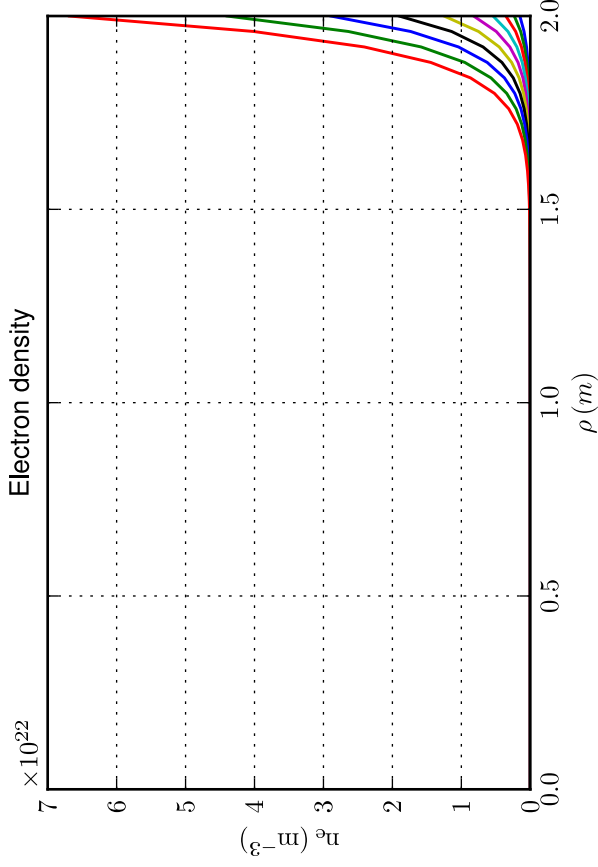
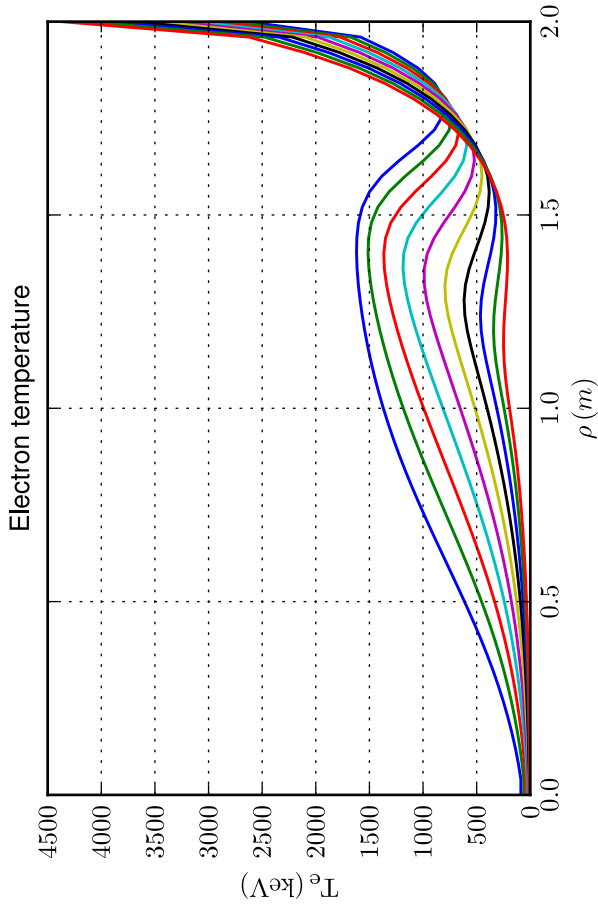


Profiles [Case: 1.1.5.c, Solver: 3, $D = 0.1 \text{ m}^2/\text{s}$, $v = 1.00 \text{ m/s}$, $\Delta t = 4.00$, $\tau = 1.0 \times 10^{-3} \text{ s}$, $N_\rho = 51$]
 Spatial zoom over edge; time sampling: first 10 time slices or zoom over time $0.1 \times (a^2/D)/|1 - (Va/D)| = 0.21 \text{ s}$



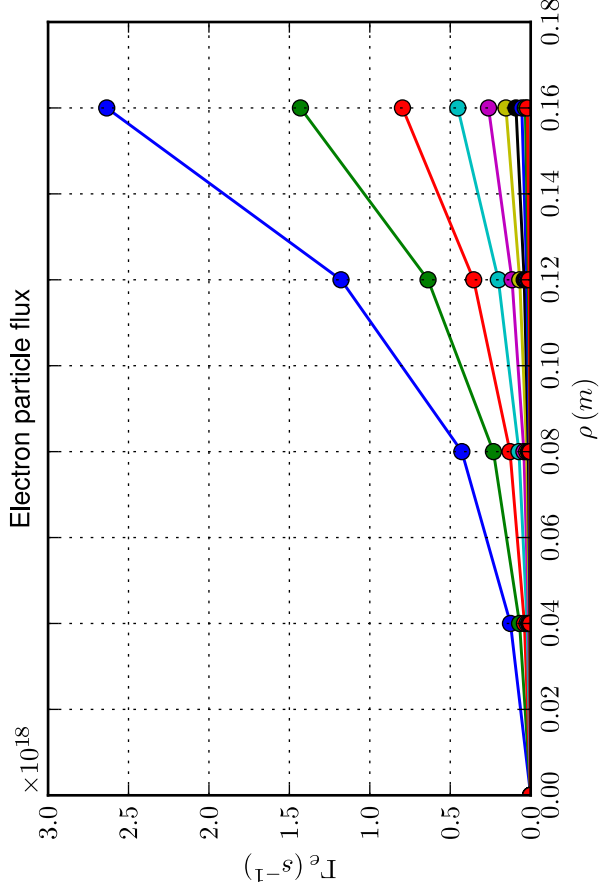
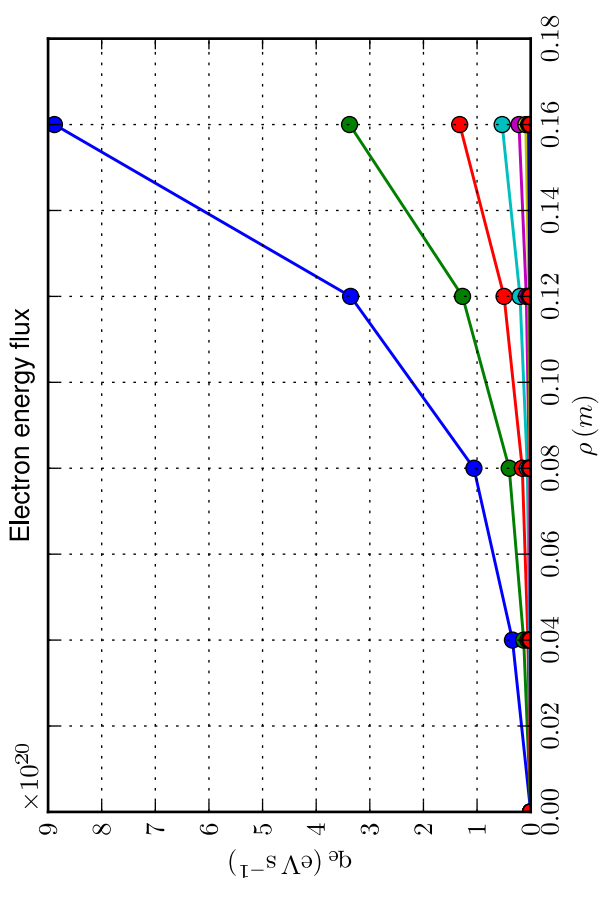
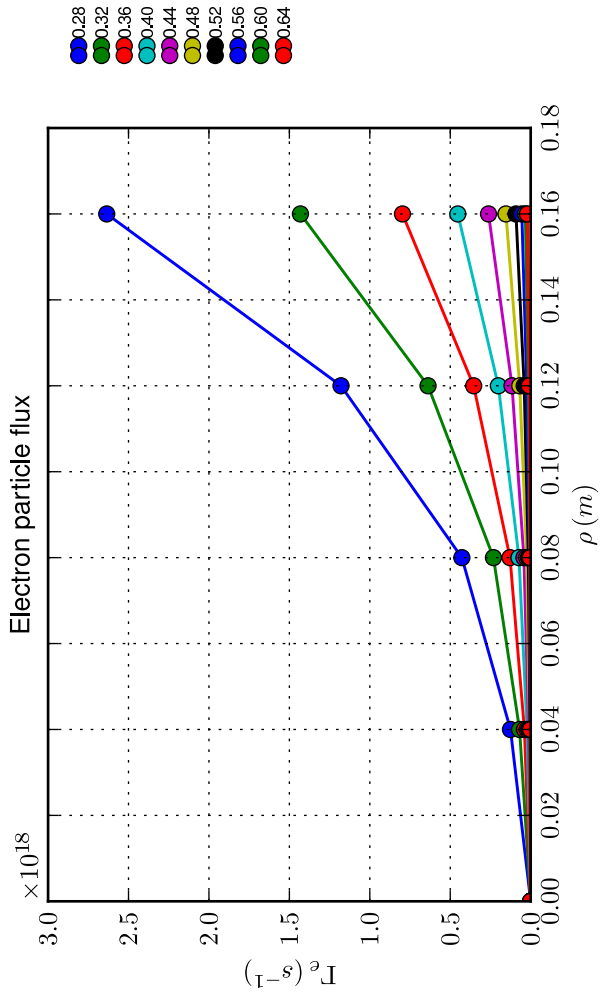
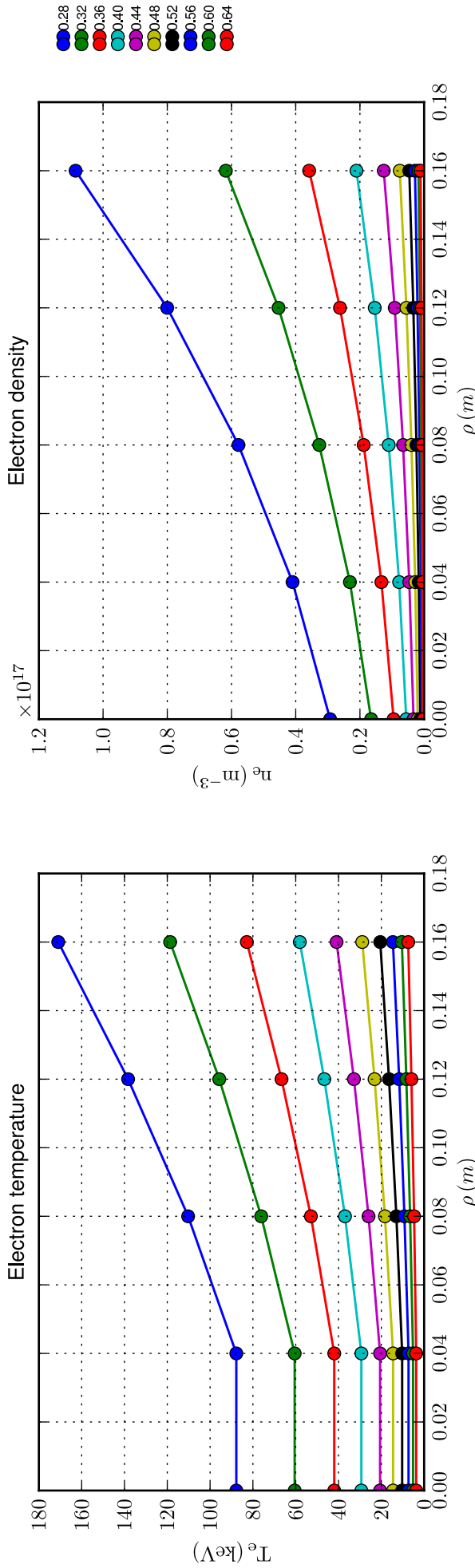
Profiles [Case: 1.1.5.c, Solver: 3, $D = 0.1 \text{ m}^2/\text{s}$, $v = 1.00 \text{ m/s}$, $\Delta t = 4.00$, $\tau = 1.0 \times 10^{-3} \text{ s}$, $N_\rho = 51$]

Time sampling: last 10 time slices



Legend for time slices: 0.28, 0.32, 0.36, 0.40, 0.44, 0.48, 0.52, 0.56, 0.60, 0.64

Profiles [Case: 1.1.5.c, Solver: 3, $D = 0.1 \text{ m}^2/\text{s}$, $v = 1.00 \text{ m/s}$, $\Delta t = 4.00$, $\tau = 1.0 \times 10^{-3} \text{ s}$, $N_\rho = 51$]
 Spatial zoom over magnetic axis; time sampling: last 10 time slices



Profiles [Case: 1.1.5.c, Solver: 3, $D = 0.1 \text{ m}^2/\text{s}$, $v = 1.00 \text{ m/s}$, $\Delta t = 4.00$, $\tau = 1.0 \times 10^{-3} \text{ s}$, $N_\rho = 51$]
 Spatial zoom over edge; time sampling: last 10 time slices

