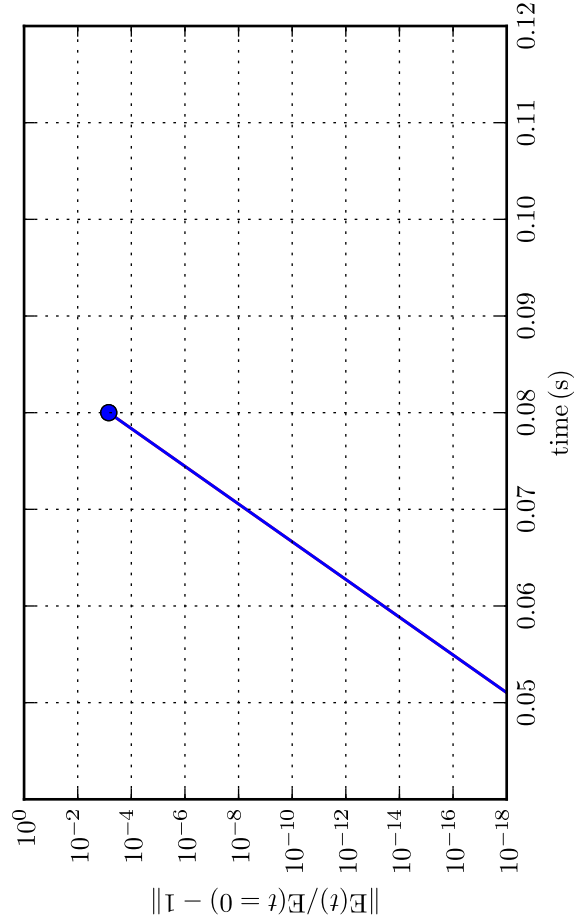
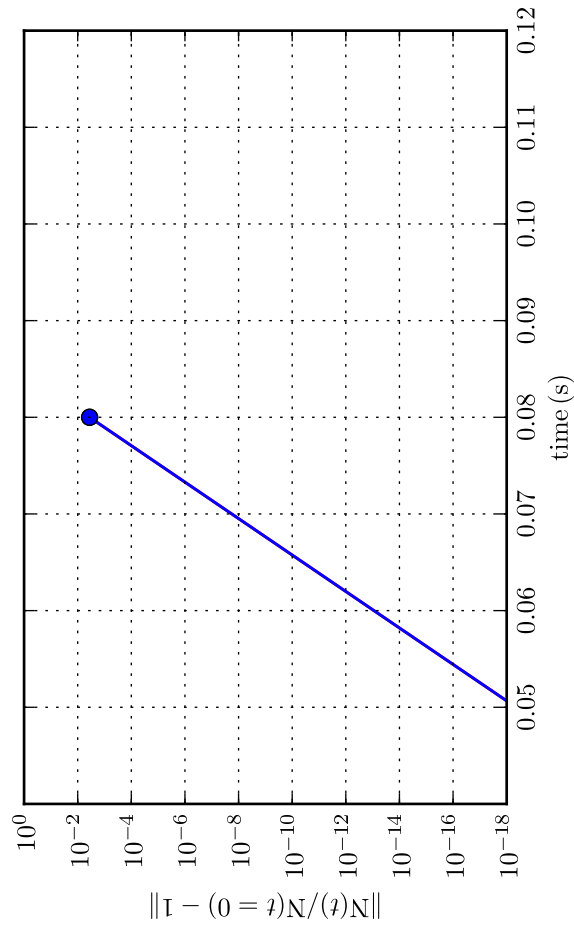
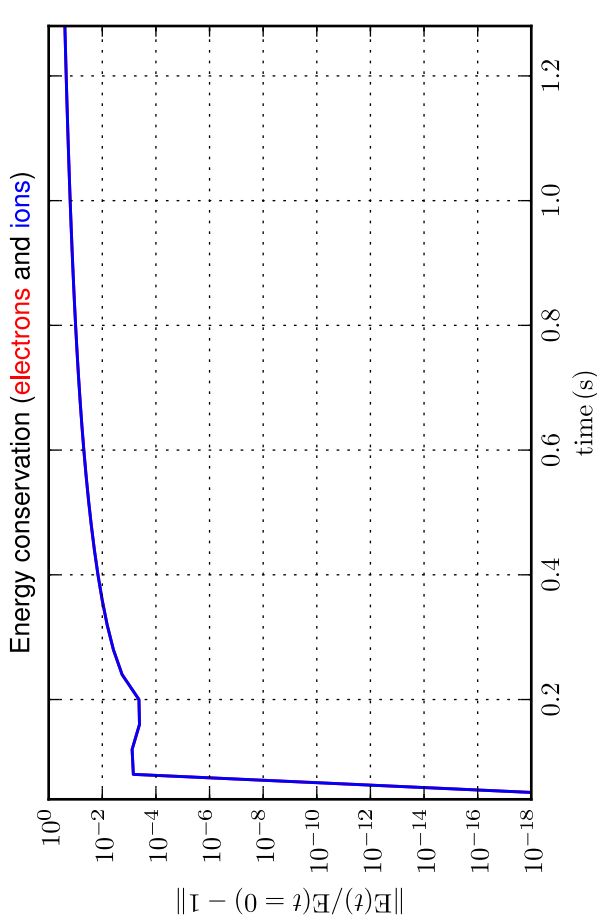
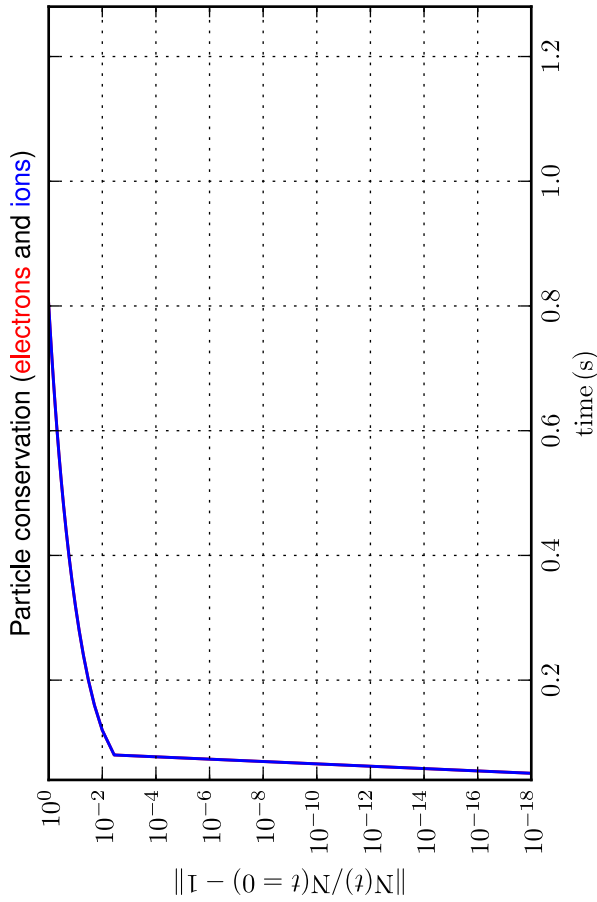
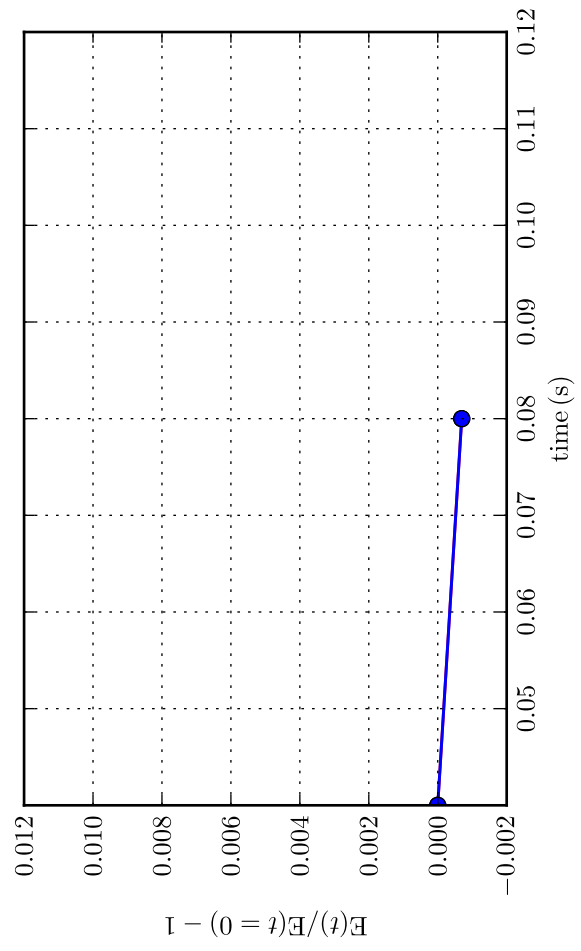
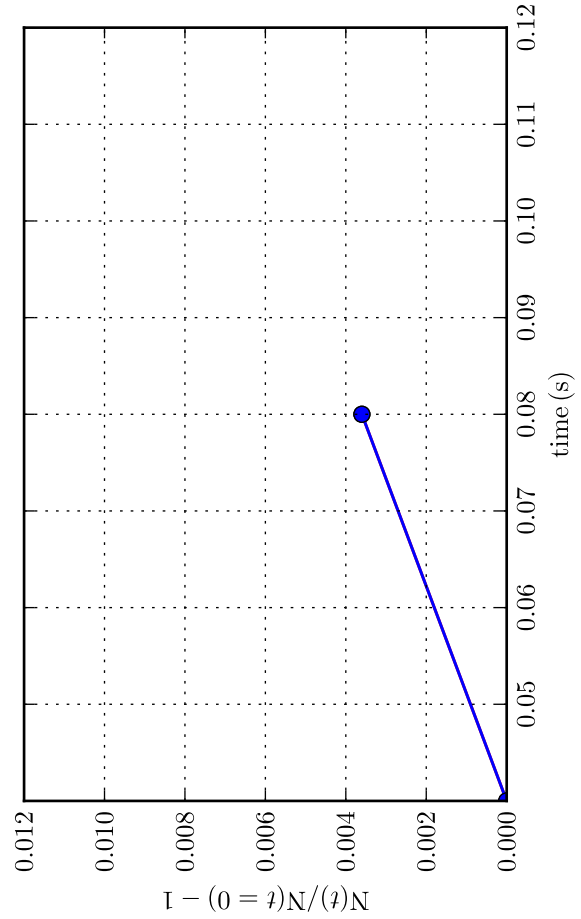
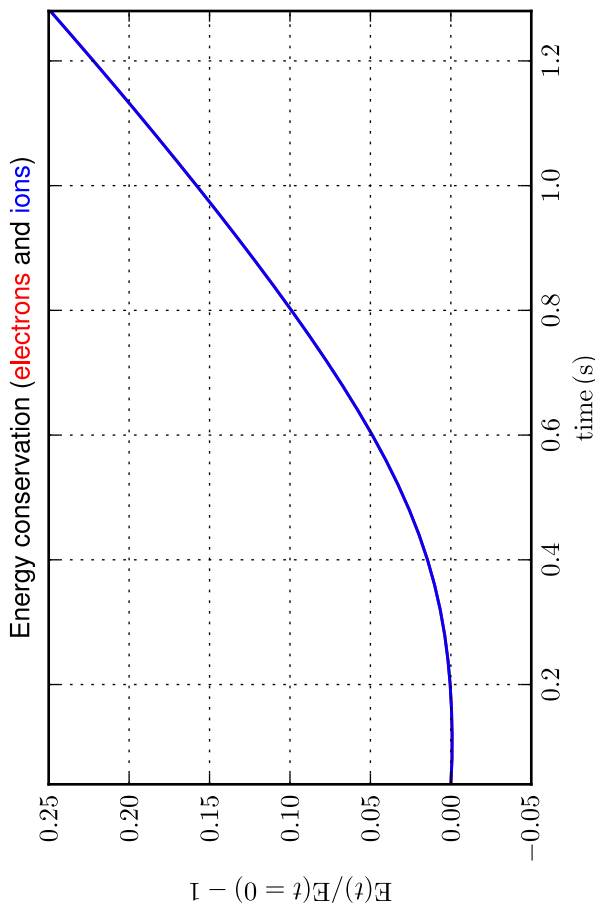
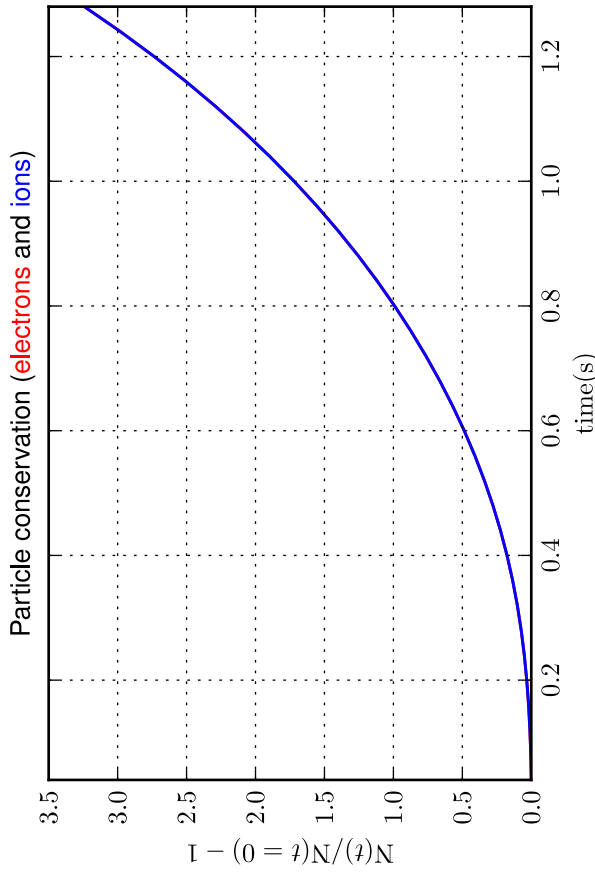


Part. & Energy conservation [Case: I.1.5.j, Solver: 3, $D = 0.1 \text{ m}^2/\text{s}$, $v = -1.00 \text{ m/s}$, $\Delta t = 4.00$, $\tau = 1.0 \times 10^{-3} \text{ s}$, $N_p = 51$]

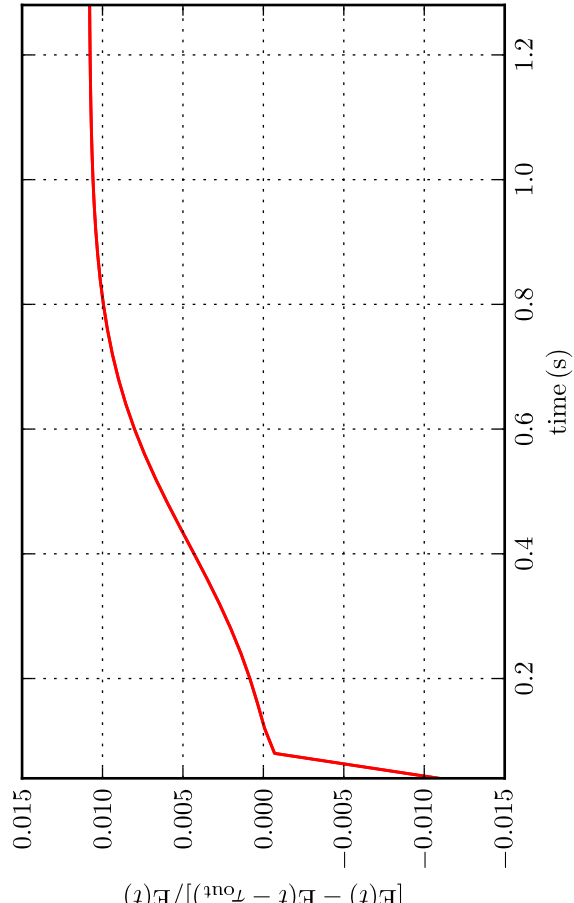
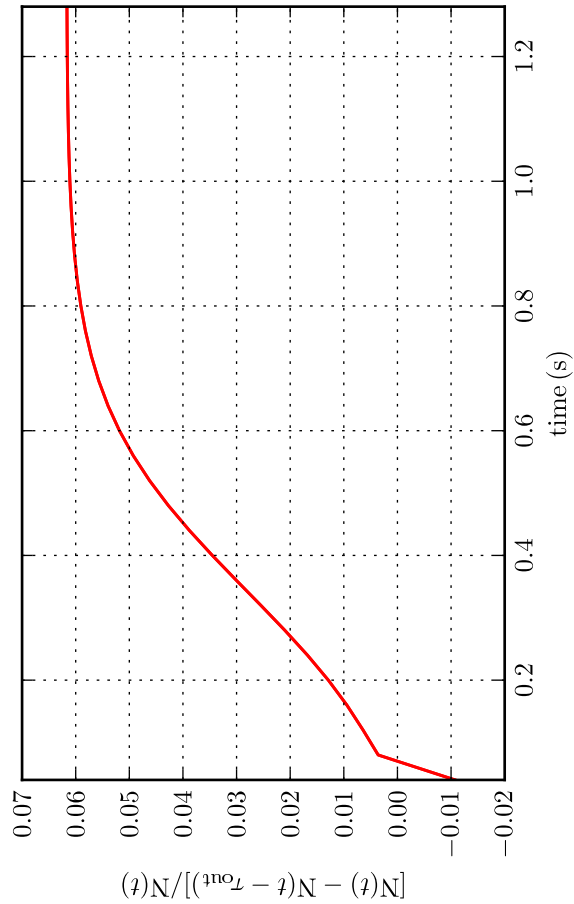
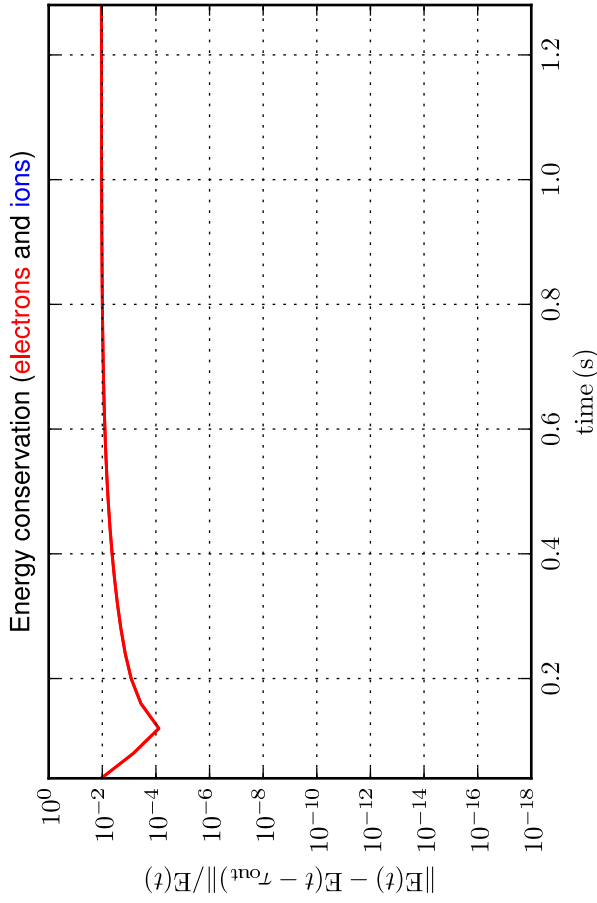
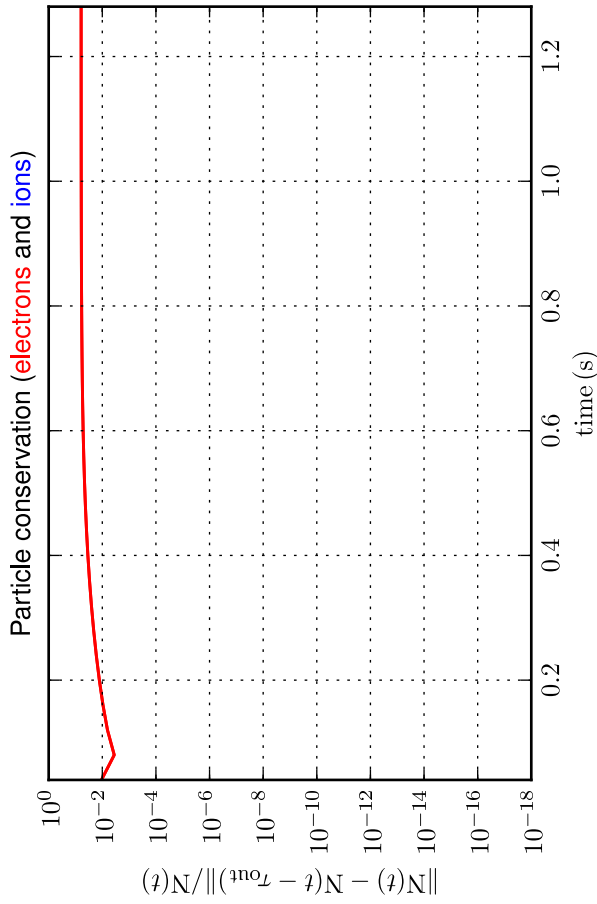
Comparison with initial solution - log scale; total time and zoom over time



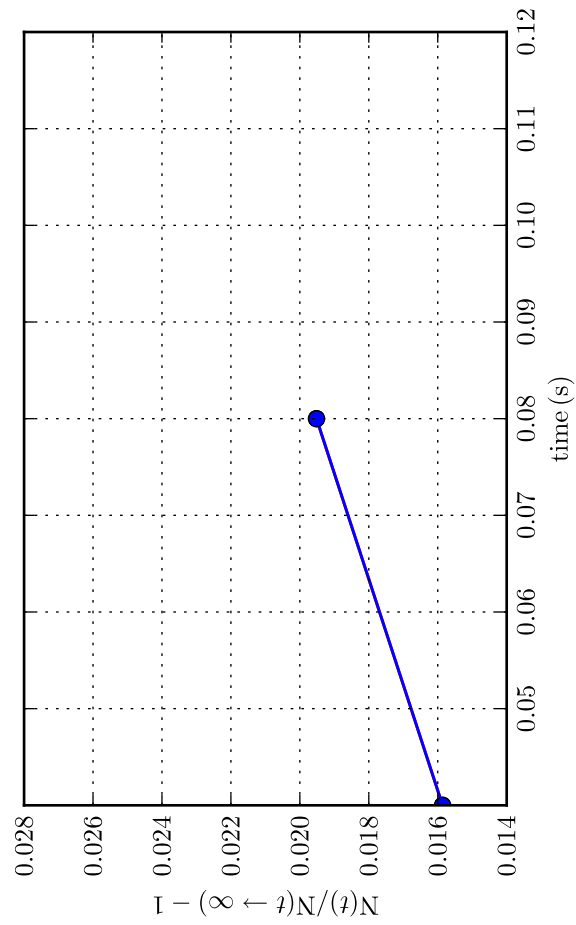
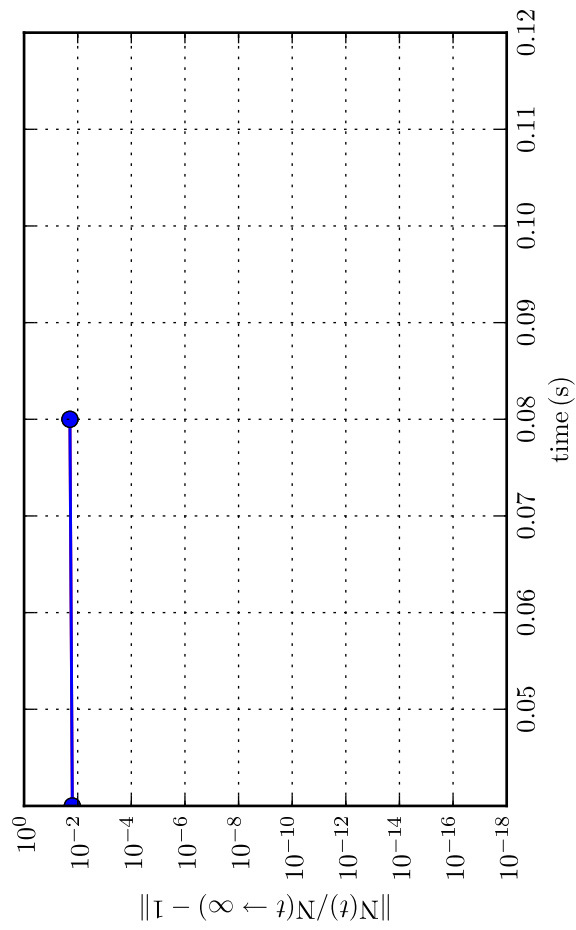
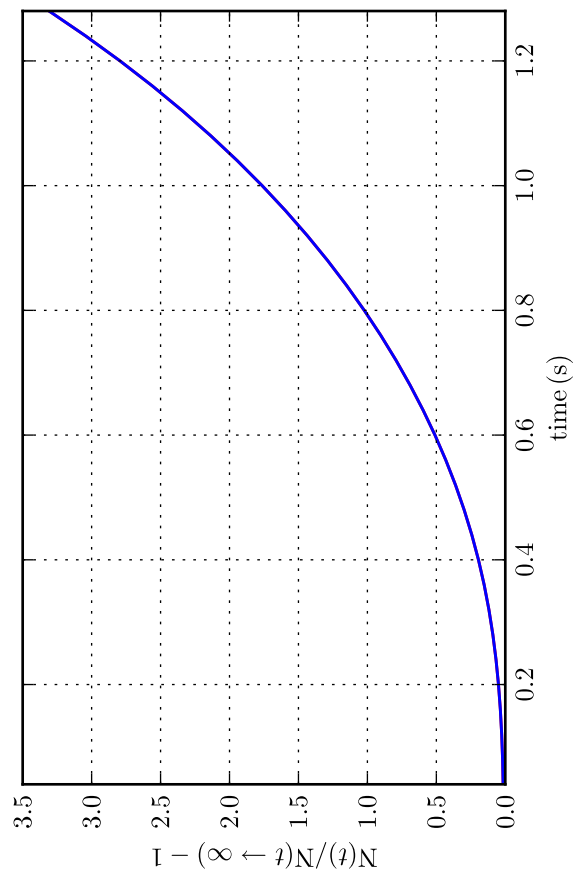
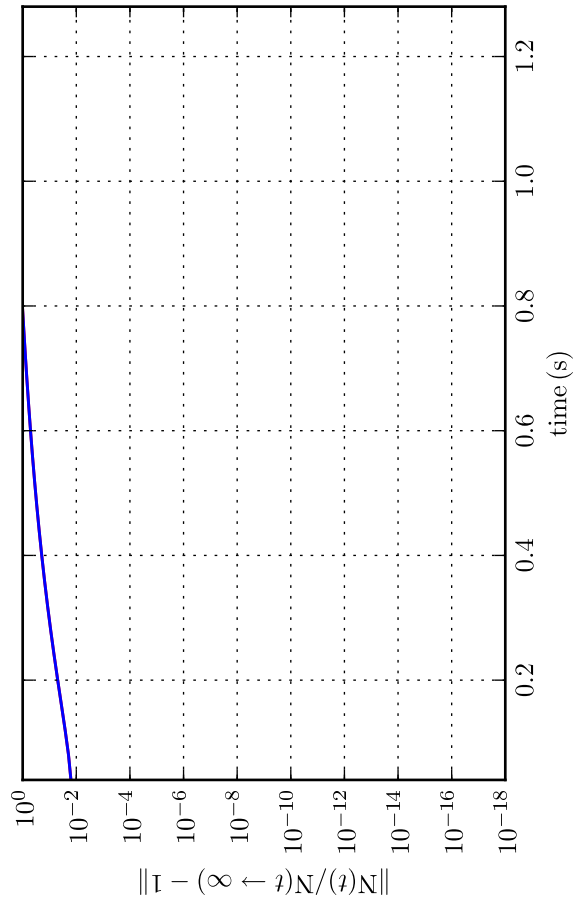
Part. & Energy conservation [Case: I.1.5.j, Solver: 3, $D = 0.1 \text{ m}^2/\text{s}$, $v = -1.00 \text{ m/s}$, $\Delta t = 4.00$, $\tau = 1.0 \times 10^{-3} \text{ s}$, $N_p = 51$]
Comparison with initial solution - linear scale; total time and zoom over time



Part. & Energy conservation [Case: I.1.5.j, 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

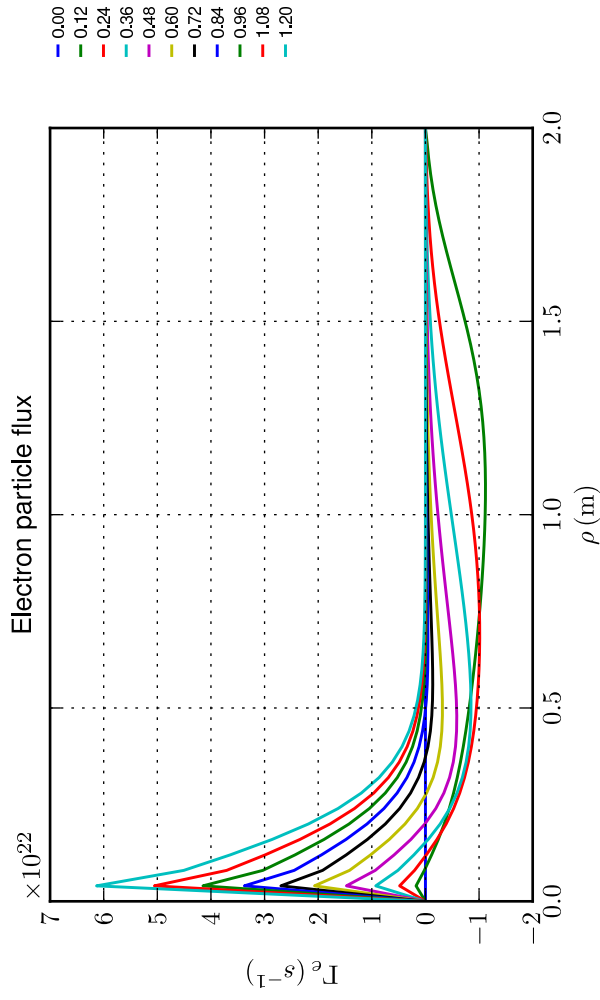
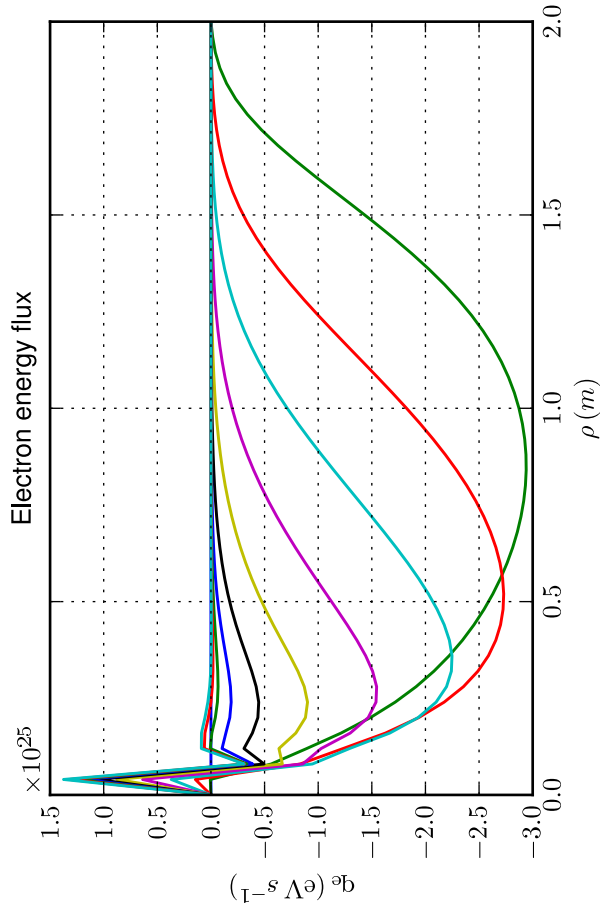
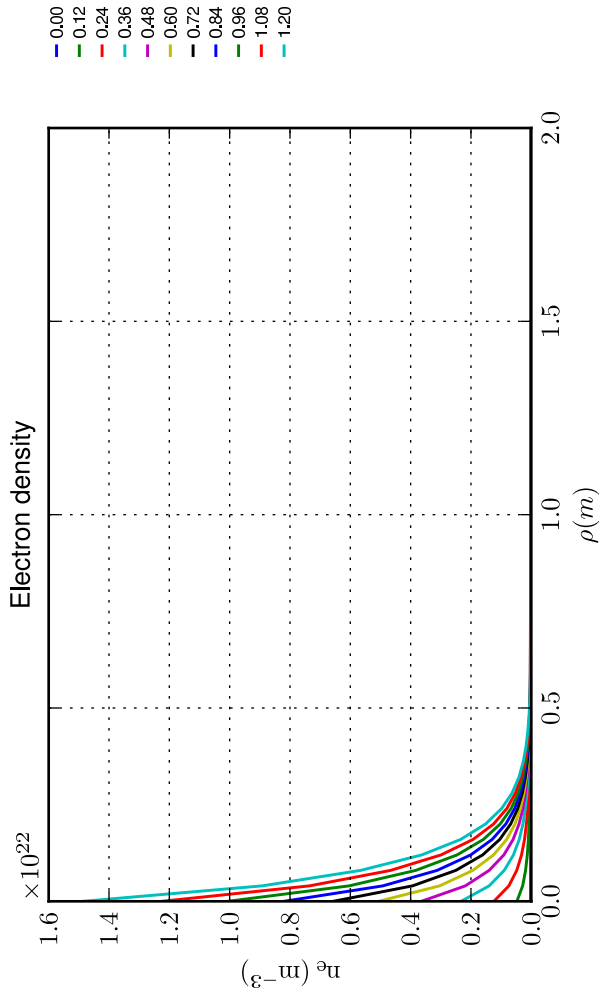
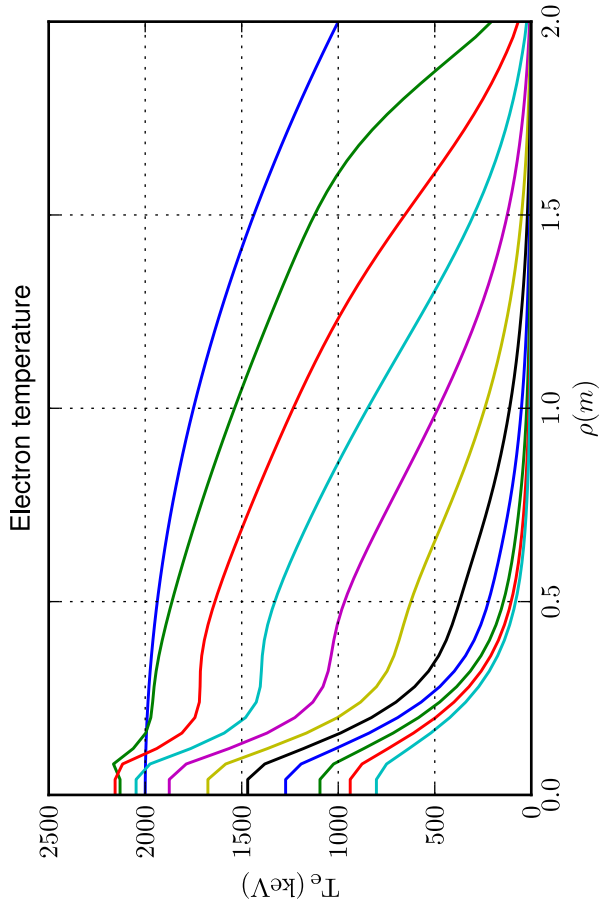


Particle conservation [Case: I.1.5.j, Solver: 3, $D = 0.1 \text{ m}^2/\text{s}$, $v = -1.00 \text{ m/s}$, $\Delta t = 4.00$, $\tau = 1.0 \times 10^{-3} \text{ s}$, $N_p = 51$]
 Comparison with asymptotic solution (electrons and ions); total time and zoom over time



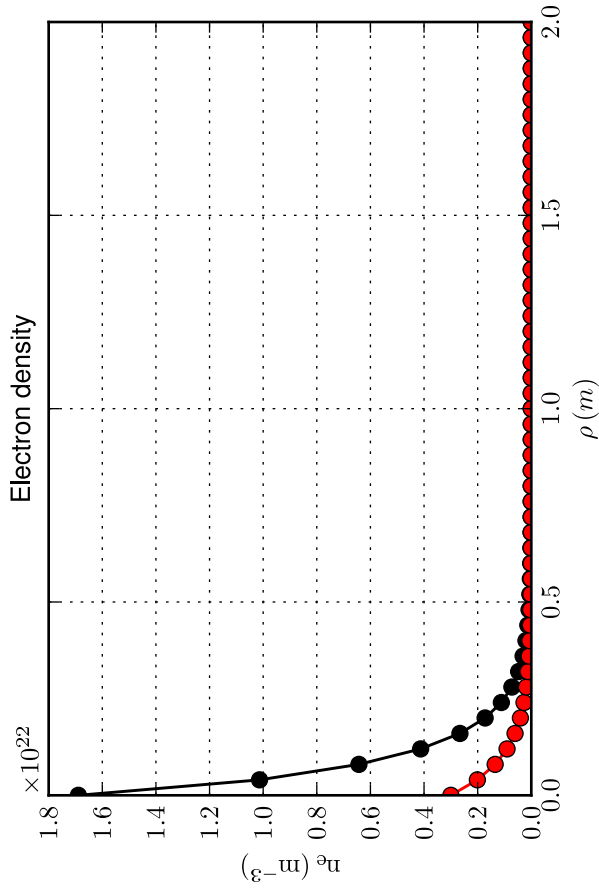
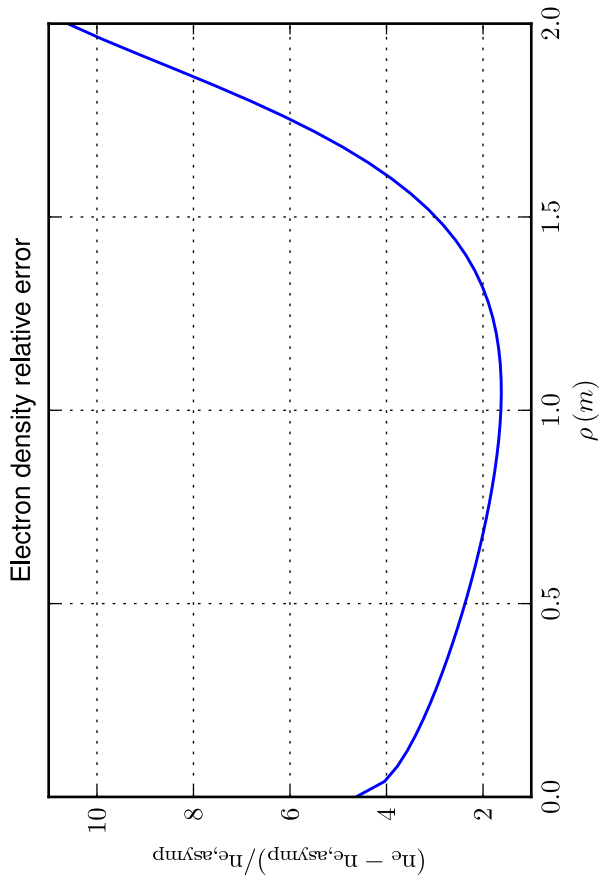
Profiles [Case: I.1.5.j, Solver: 3, $D = 0.1 \text{ m}^2/\text{s}$, $v = -1.00 \text{ m/s}$, $\Delta t = 4.00$, $\tau = 1.0 \times 10^{-3} \text{ s}$, $N_p = 51$]

Time sampling: total simulation time/10

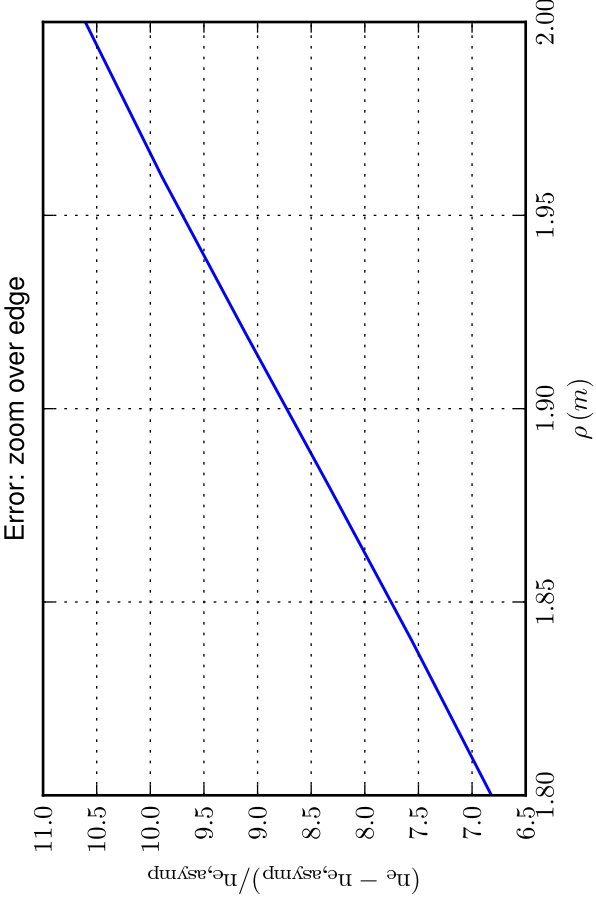
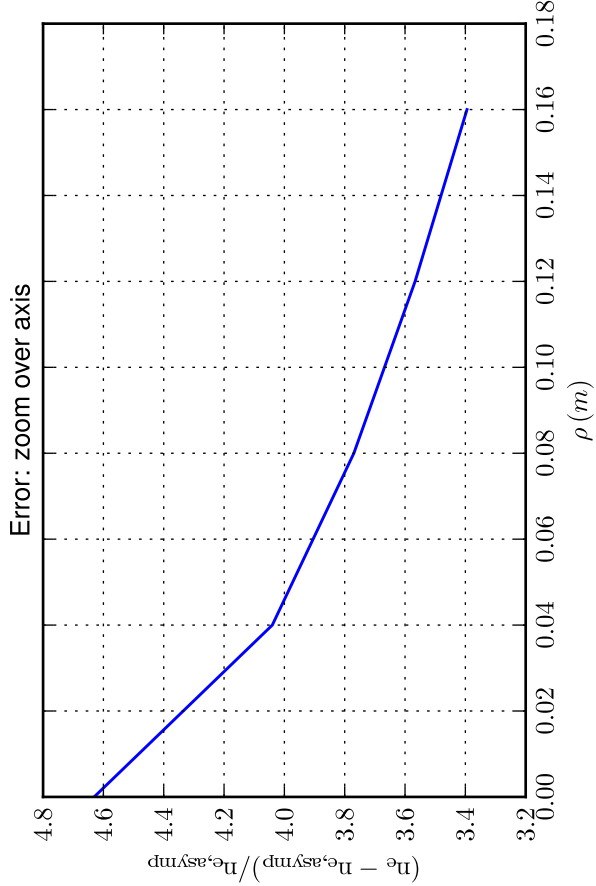


Profiles [Case: I.1.5.j, Solver: 3, $D = 0.1 \text{ m}^2/\text{s}$, $v = -1.00 \text{ m/s}$, $\Delta t = 4.00$, $\tau = 1.0 \times 10^{-3} \text{ s}$, $N_\rho = 51$]

Comparison with asymptotic solution

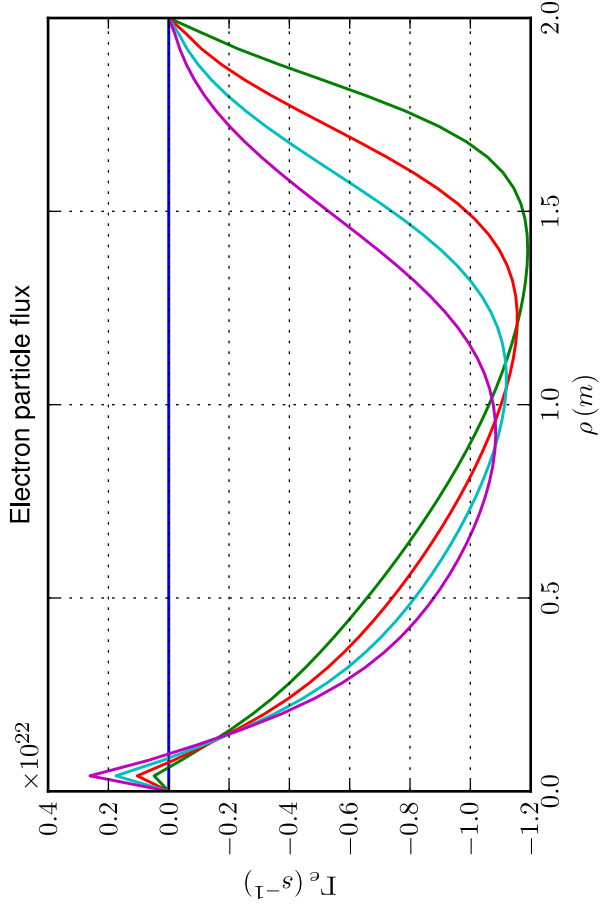
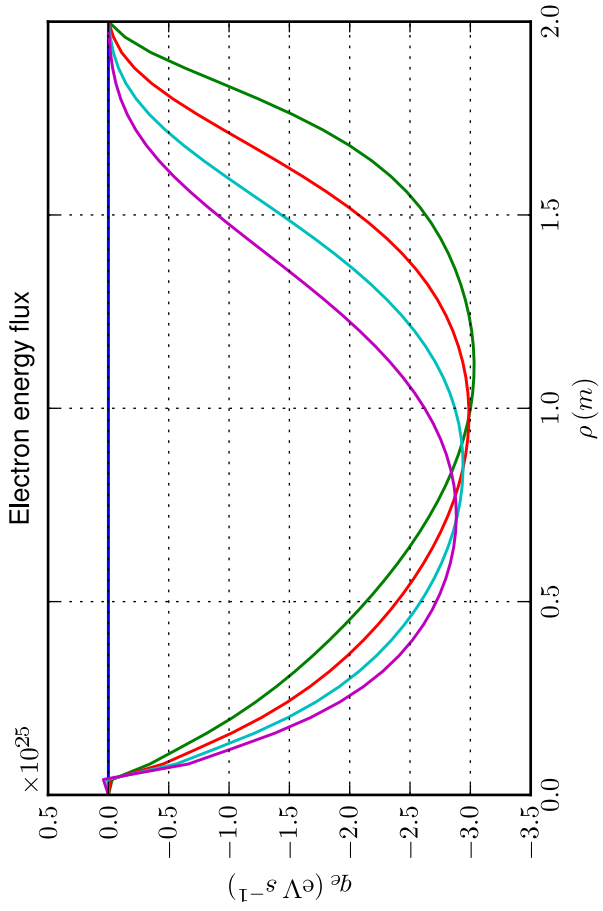
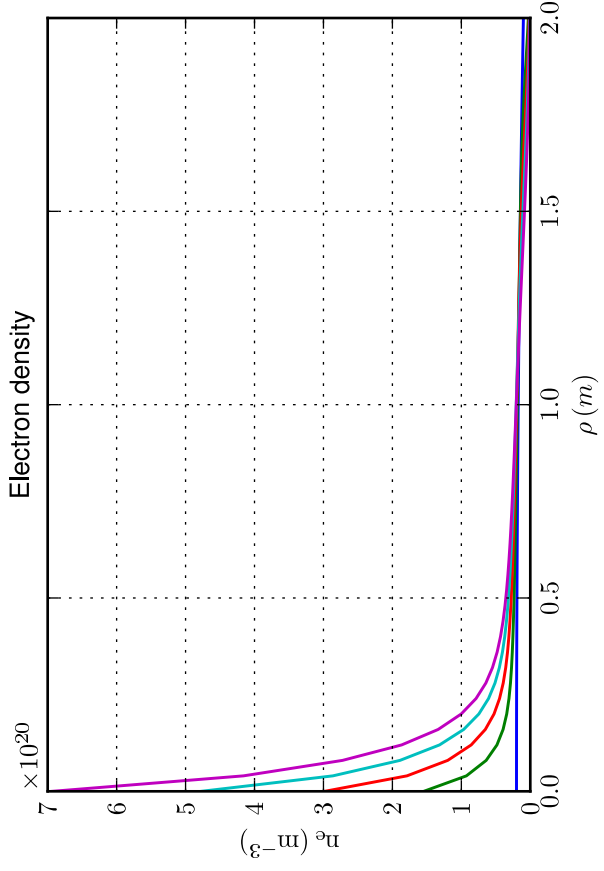
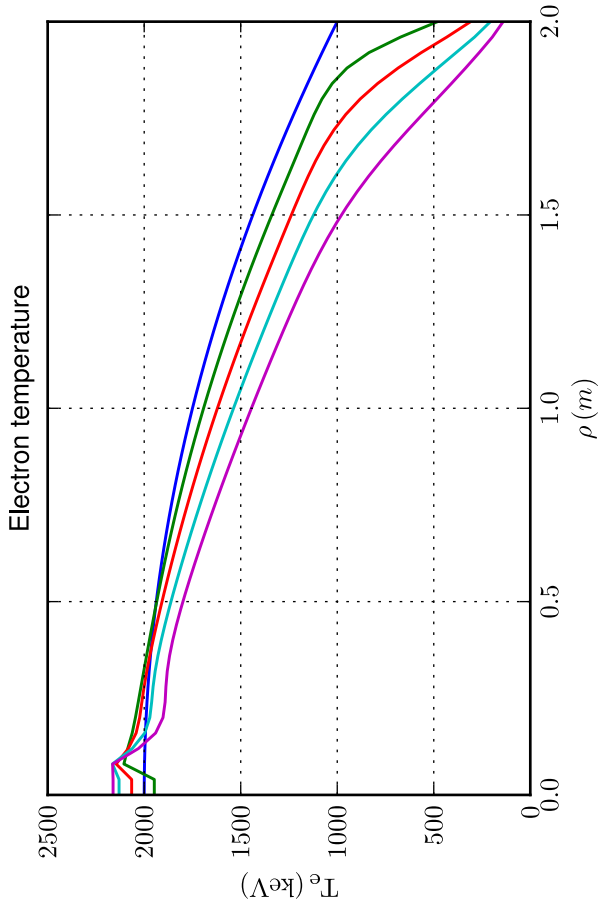


● final calculation
● asymptotic



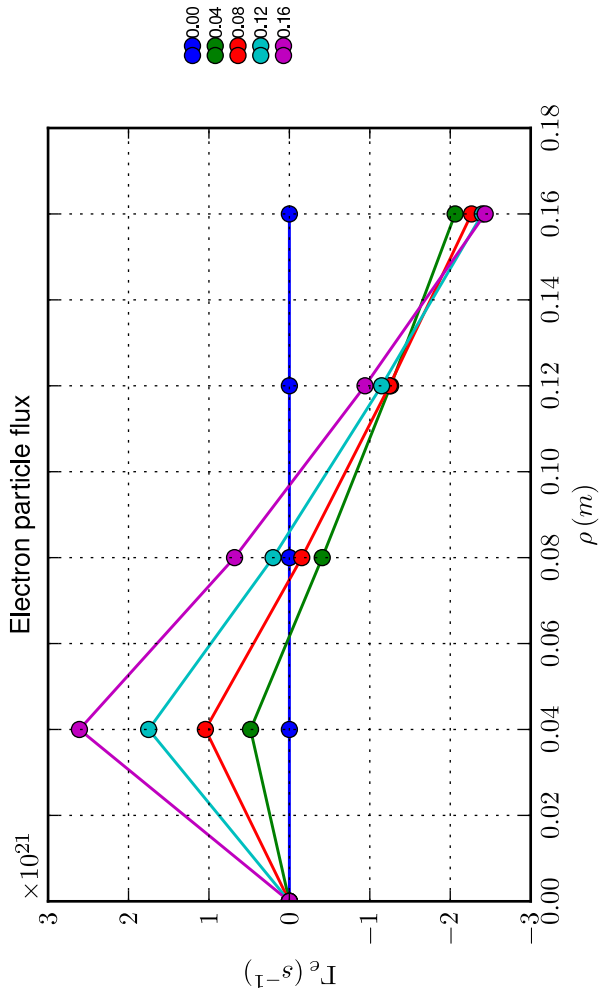
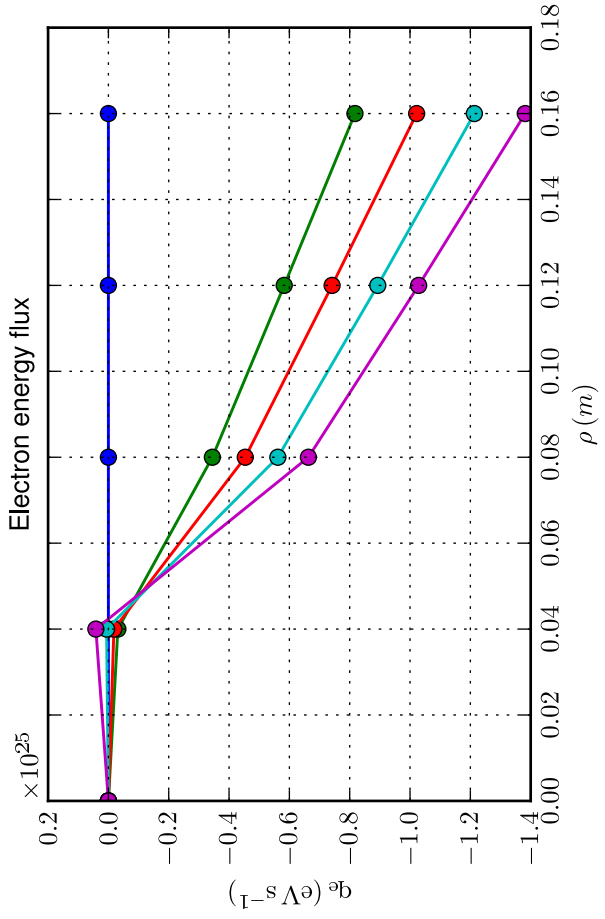
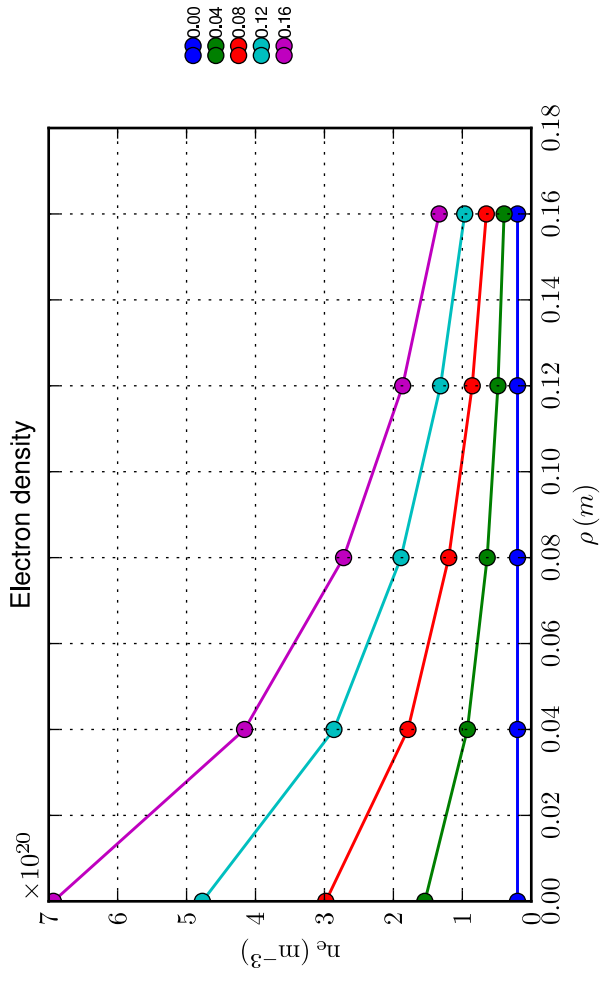
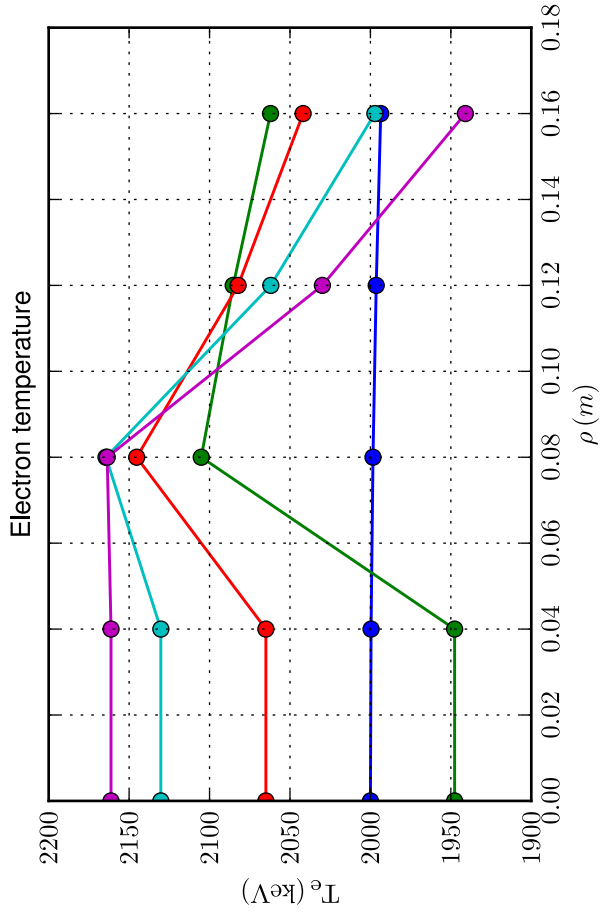
Profiles [Case: I.1.5.j, Solver: 3, $D = 0.1 \text{ m}^2/\text{s}$, $v = -1.00 \text{ m/s}$, $\Delta t = 4.00$, $\tau = 1.0 \times 10^{-3} \text{ s}$, $N_\rho = 51$]

Time sampling: first 10 time slices or zoom over time $0.1 \times (a^2/D)/|1 - (Va/D)| = 0.19 \text{ s}$

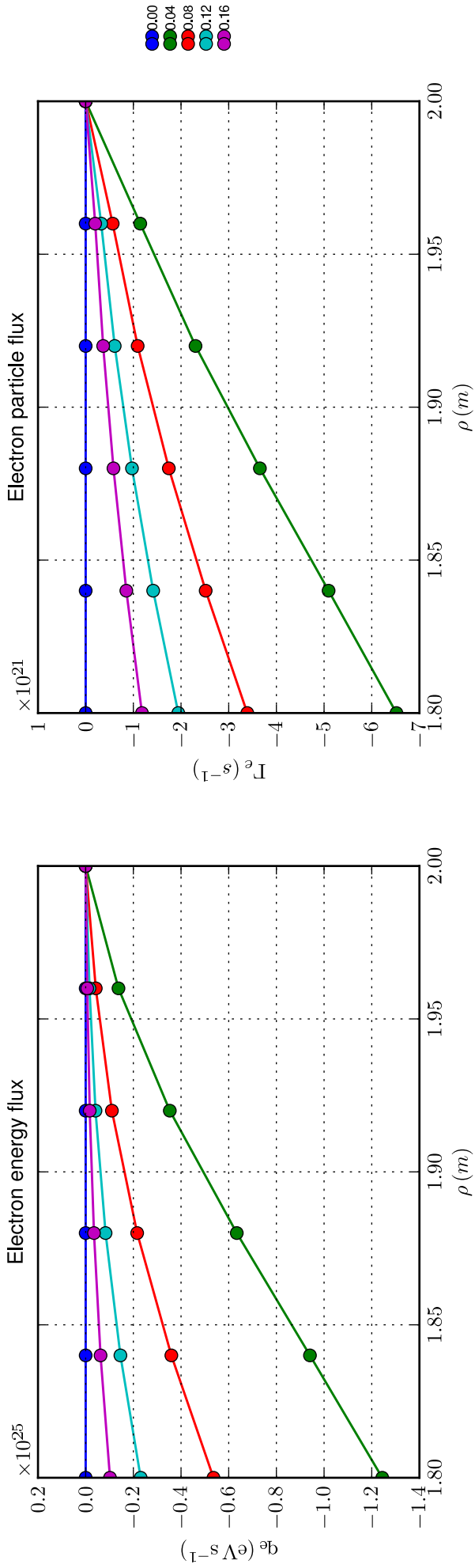
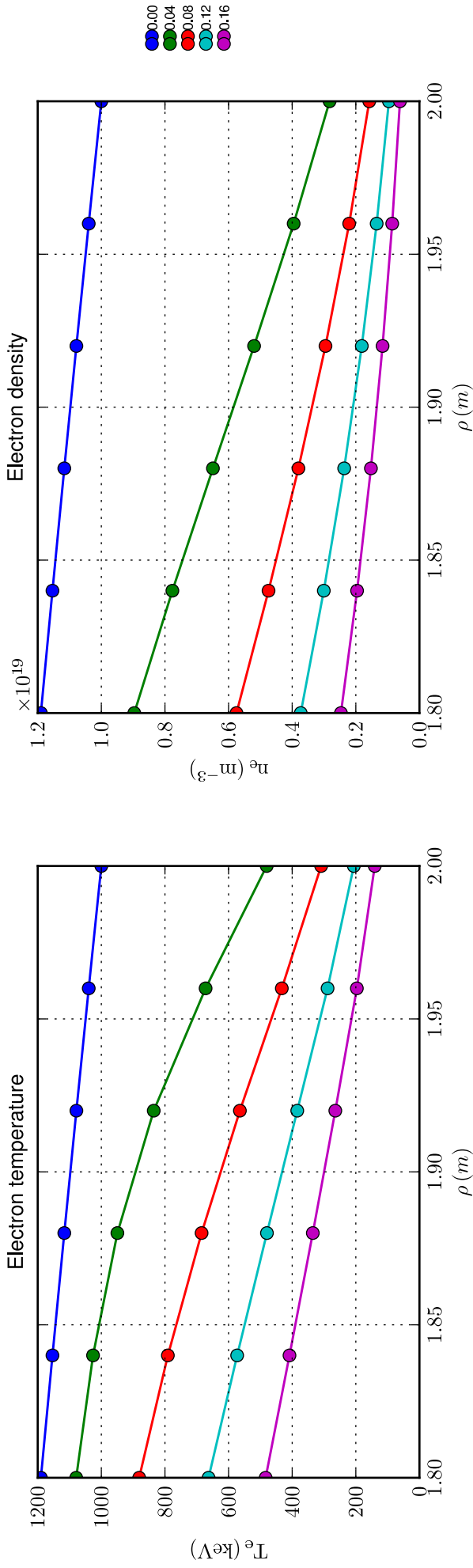


Legend for parameter values:
 - 0.00 (blue)
 - 0.04 (green)
 - 0.08 (red)
 - 0.12 (cyan)
 - 0.16 (magenta)

Profiles [Case: I.1.5.j, 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 $0.1 \times (a^2/D)/|1 - (Va/D)| = 0.19 \text{ s}$

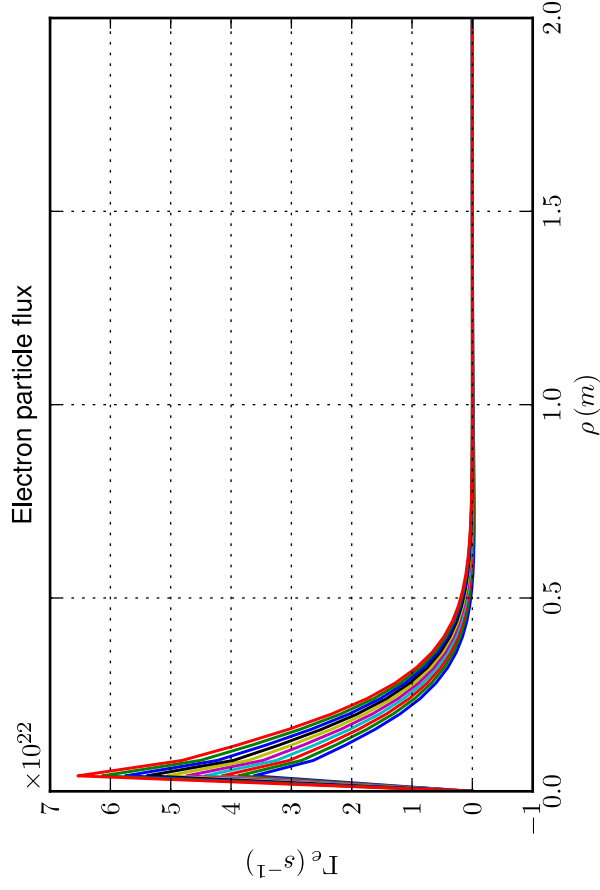
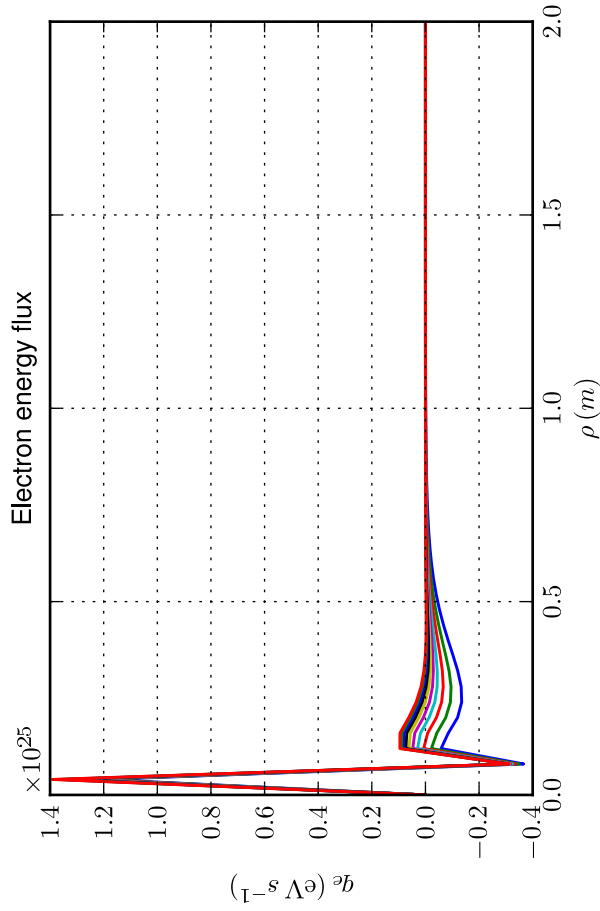
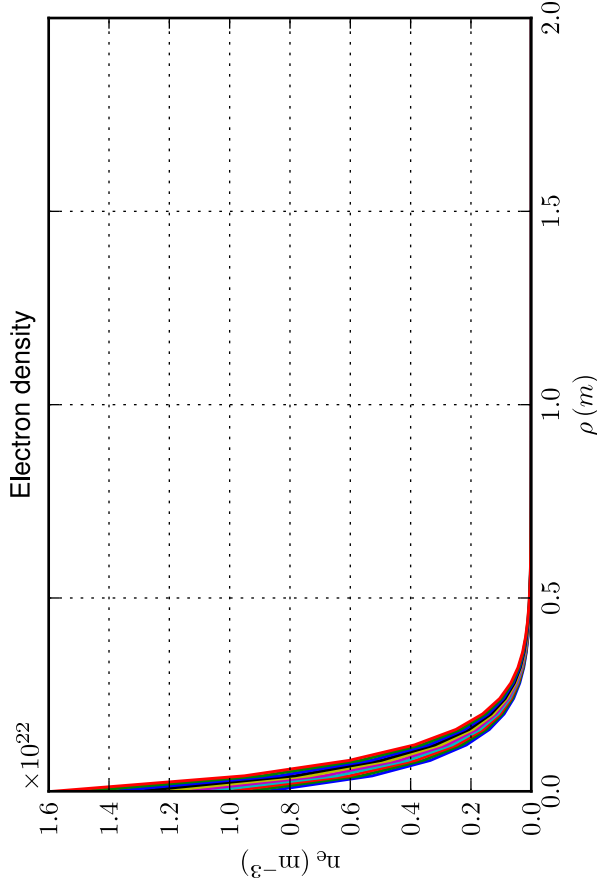
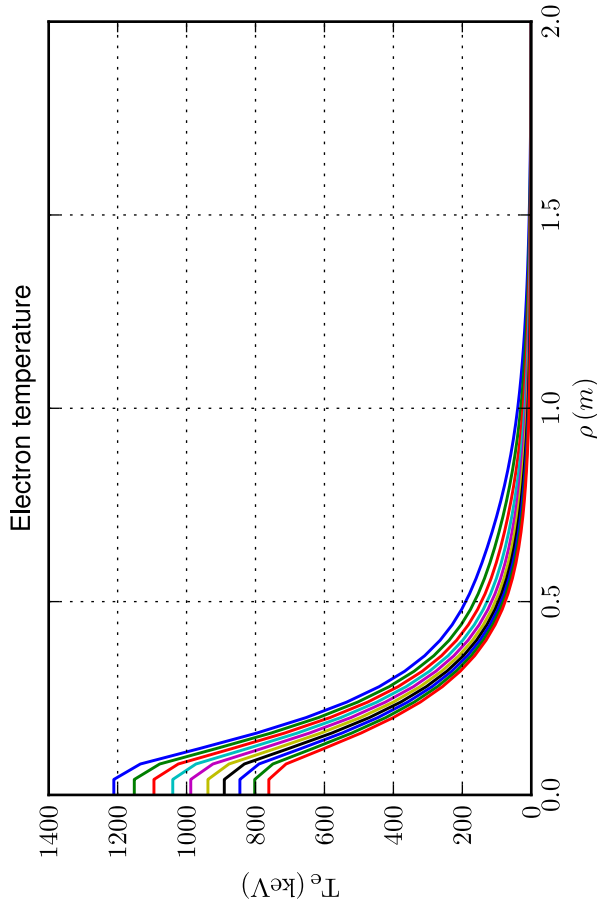


Profiles [Case: I.1.5.j, Solver: 3, $D = 0.1 \text{ m}^2/\text{s}$, $v = -1.00 \text{ m/s}$, $\Delta t = 4.00$, $\tau = 1.0 \times 10^{-3} \text{ s}$, $N_\rho = 51$]
 Spatial zoom over edge; time sampling: first 10 time slices or zoom over time $0.1 \times (a^2/D)/|1 - (Va/D)| = 0.19 \text{ s}$



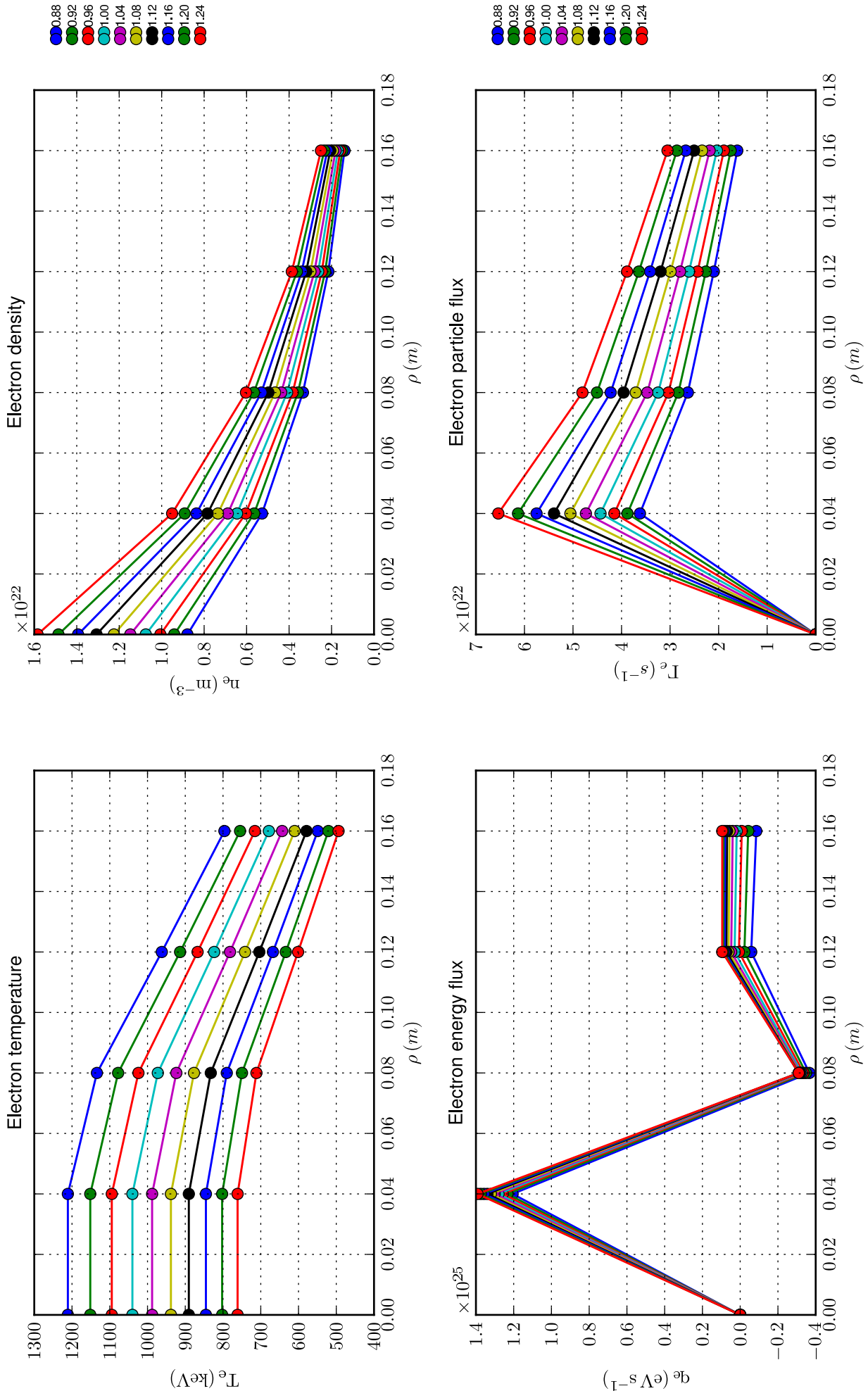
Profiles [Case: I.1.5.j, Solver: 3, $D = 0.1 \text{ m}^2/\text{s}$, $v = -1.00 \text{ m/s}$, $\Delta t = 4.00$, $\tau = 1.0 \times 10^{-3} \text{ s}$, $N_\rho = 51$]

Time sampling: last 10 time slices



0.88
0.92
0.96
1.00
1.04
1.08
1.12
1.16
1.20
1.24

Profiles [Case: I.1.5.j, 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.j, Solver: 3, $D = 0.1 \text{ m}^2/\text{s}$, $v = -1.00 \text{ m/s}$, $\Delta t = 4.00$, $\tau = 1.0 \times 10^{-3} \text{ s}$, $N_p = 51$]
 Spatial zoom over edge; time sampling: last 10 time slices

