

The graph displays the evolution of Core Density and SOL Density for three different linearization methods (1, 2, and 3) compared to a Non Linearized baseline. The x-axis represents the number of iterations from 0 to 200,000. The y-axis represents density, with a major tick at 0.0005. The legend identifies eight data series: Non Linearized Core Density (dark green), Non Linearized SOL Density (light green), Linearization 1 Core Density (dark orange), Linearization 1 SOL Density (light orange), Linearization 2 Core Density (dark blue), Linearization 2 SOL Density (light blue), Linearization 3 Core Density (dark pink), and Linearization 3 SOL Density (light pink).

Key observations from the graph:

- Core Density:** All methods start at approximately 0.0005. The Non Linearized Core Density remains constant. Linearization 1 and 3 show a very slight decrease, while Linearization 2 shows a more significant decrease, reaching approximately 0.00045 by 200,000 iterations.
- SOL Density:** All methods start at 0.0. Linearization 1 and 3 show a slight increase, peaking around 50,000 iterations before slightly decreasing. Linearization 2 shows a slight increase, peaking around 75,000 iterations before slightly decreasing. The Non Linearized SOL Density remains at 0.0.

Iteration	Non Linearized Core Density	Non Linearized SOL Density	Linearization 1 Core Density	Linearization 1 SOL Density	Linearization 2 Core Density	Linearization 2 SOL Density	Linearization 3 Core Density	Linearization 3 SOL Density
0	0.0005	0.0	0.0005	0.0	0.0005	0.0	0.0005	0.0
25000	0.0005	0.0	0.0005	0.0001	0.00048	0.0001	0.0005	0.0001
50000	0.0005	0.0	0.0005	0.0002	0.00046	0.0002	0.0005	0.0002
75000	0.0005	0.0	0.0005	0.0002	0.00045	0.0002	0.0005	0.0002
100000	0.0005	0.0	0.0005	0.0002	0.00044	0.0002	0.0005	0.0002
125000	0.0005	0.0	0.0005	0.0002	0.00043	0.0002	0.0005	0.0002
150000	0.0005	0.0	0.0005	0.0002	0.00042	0.0002	0.0005	0.0002
175000	0.0005	0.0	0.0005	0.0002	0.00041	0.0002	0.0005	0.0002
200000	0.0005	0.0	0.0005	0.0002	0.0004	0.0002	0.0005	0.0002