1003-35-915   **Jianzhong Sun*** (`sunj@uncw.edu`), 457 Racine Drive, Apt 210, Wilmington, NC 28403, and **Patricia Bauman**. *Long-time Limit For The Ginzburg-Landau System With Pinning.*

We investigate the long-time limit and pinning properties of the solution (ψ, A) to the time-dependent Ginzburg-Landau (TDGL) system. Through the analysis of the gauge transformation equation and a generalized energy, we show that the solution of the TDGL system converges to a static state in various gauges. By fixing a gauge, the convergence is in $C^{2,\alpha}$ globally. If the superconductor is inhomogeneous with pinning sites, we proved that the limit of the TDGL system resembles its initial value in the degree sense around the pinning sites. (Received October 01, 2004)