1003-81-912 **A. M. Abdurrahman*** (ababdu@ship.edu), Department of Physics, Shippensburg University, 1871 Old Main, Shippensburg, PA 17257, and **J. M. Bordes** (jose.m.bordes@uv.es), Departament de Fisica Teorica, Universitat de Valencia, Dr. Moliner 50, E-46100, Burjassot, Valencia, Spain. *Improved Lagrangian for the Fermionic String.*

The principle of "world sheet" local gauge invariance is applied to the free Lagrangian for the fermionic string. It is seen that the requirement that the theory be invariant under a world sheet local gauge transformation leads to the introduction of a world sheet gauge field interacting with the fermionic field in a definite way. The improved expression, for the fermionic piece of the Lagrangian, could be interpreted as the Lagrangian for a "world sheet" quantum electrodynamics. (Received September 30, 2004)