1009-17-107        **Alistair Savage\*** (`alistair.savage@utoronto.ca`), Department of Mathematics, U of Toronto, Bahen Centre, 40 St. George St. Room 6290, Toronto, Ontario M5S 2E4, Canada. *A geometric boson-fermion correspondence.*

The fixed points of a natural torus action on the Hilbert schemes of points in $\mathbb{C}^2$ are quiver varieties of type $A_\infty$. The equivariant cohomology of the Hilbert schemes and quiver varieties can be given the structure of bosonic and fermionic Fock spaces respectively. Then the localization theorem, which relates the equivariant cohomology of a space with that of its fixed point set, yields a geometric realization of the important boson-fermion correspondence. (Received August 09, 2005)