

The supersymmetric Burgers equation: Bosonization and exact solution

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Abstract: Using bosonization approach, the $N=1$ supersymmetry Burgers system is changed to a system of coupled bosonic equations. And the difficulties caused by intractable anticommuting fermionic fields can be effectively avoided with the approach. The traveling wave solutions and the similarity reduction solutions of the model are obtained with the mapping and deformation method and the Lie point symmetry theory, respectively. Besides, the richness of the localized excitations of the supersymmetric integrable system is discovered.