

On the integrability of supersymmetric versions of the structural equations for conformally parametrized surfaces

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The aim of this talk is to presents the bosonic and fermionic supersymmetric extensions of the structural equations describing conformally parametrized surfaces immersed in a Grassmann superspace. A detailed analysis of the symmetry properties of both the classical and supersymmetric versions of the Gauss–Weingarten and Gauss–Codazzi equations is performed. A supersymmetric generalization of the conjecture establishing the necessary conditions for a system to be integrable in the sense of soliton theory is formulated and illustrated by the examples of supersymmetric versions of the sine-Gordon equation and the Gauss–Codazzi equations.