Mathematical Physics

Invariant formulation of surfaces associated with CP^{N-1} models

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In this paper, we provide an invariant formulation of completely integrable CP^{N-1} Euclidean sigma models in two dimensions defined on the Riemann sphere S^2. The scaling invariance is explicitly taken into account by expressing all the equations in terms of projection operators. Properties of the projectors mapping onto one-dimensional subspaces are discussed in detail. The paper includes a discussion of surfaces connected with the CP^{N-1} models and the wave functions of their linear spectral problem.

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