

Imbalance of the $O(3)$ theory and the $N=1$ model

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Abstract

In this paper, we study the $O(3)$ theory and the $N=1$ model with the $O(3)$ symmetry group. The analysis of the $O(3)$ theory is performed by using the modified Poincaré group and the modified Kähler group. We find that both of them are equivalent to the $O(3)$ theory with the $O(3)$ symmetry group.