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Nonlinear Nambu-Goldstone waves

For non-Abelian O(3)-invariant Goldstone model, as nice example of the spontaneous breakdown of global symmetry, we show the existence of solitary massless waves – nonlinear analog of Nambu-Goldstone waves. Solitary waves are dark and bright waves on the background of Higgs vacuum condensate and have the high symmetry .

The solitary waves must satisfy the famous Kasner constraints ("Kasner sphere") for homogeneous anisotropic cosmological models.