

Topological defects and parametric resonance

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This study presents a detailed investigation into the formation and dynamics of topological defects, particularly domain walls, resulting from the breaking of discrete symmetries within scalar field theories. By focusing on the effects of parametric resonance, we investigate the mechanisms driving symmetry restoration and the subsequent emergence of domain walls. Through the analysis of a scalar field Lagrangian exhibiting Z_2 symmetry, we establish comprehensive conditions for the stability and decay of these domain walls.

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