Discriminating Z' from anomalous gauge coupling signatures in $e^+e^- \to W^+W^-$ at International Linear Collider

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The foreseeable sensitivity to Z's and anomalous gauge couplings of $W^{\pm}$-pair production cross sections at the e^+e^- International Linear Collider (ILC) is discussed. The potential of distinguishing observable effects of the Z' from analogous ones due to competitor models with anomalous trilinear gauge couplings (AGC), which can lead to the same or similar new physics experimental signatures at the ILC, is studied.

Dynamics of an equation with a large spatially distributed control

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The dynamic properties of equations with spatially distributed parameters have been studied. Specifically, we examine the dynamic properties of the spatially distributed scalar complex quation with qubic nonlinearity.

$$\dot{u} = (a - b|u|^2)u + Ke^{i\varphi}(\int_{-\infty}^{\infty} F(s)u(t, x+s)ds - u)$$

with the periodic boundary conditions $u(t, x+2\pi) \equiv u(t, x)$. The research technique is based on the special asymptotic method. In this context, the parameter K is assumed to be sufficiently large: $K \gg 1$. As result, special nonlinear families of generally parabolic evolution equations (without small or large parameters) have been constructed to determine the leading terms of the asymptotic representations of solutions to the original boundary value problem. The presence of the continual parameter in these families suggests that multistability is characteristic of principal system with a large spatially distributed control parameter.

Generalized Finser structures related to Mueller matrices within the Stokes formalism

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The theory of the Lorentz group provides clues for approaching problems of light polarization optics in the frames of the vector Mueller and spinor Jones formalisms. Differences in describing completely polarized vs. partly polarized light correlate with the properties of isotropic and time-like vectors in Special Relativity. The enveloping framework for the involved geometric objects is the