

New Physics searches at BESIII

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Many models of physics beyond the SM, motivated by the recent astrophysical anomalies, include the possibility of a new types of weak-interacting degrees of freedom. Typical models, such as Next-to-Minimal Supersymmetric SM and Light Hidden Dark-sector model, predict a low-mass Higgs and a Dark Bosons, respectively. The masses and decay modes of these particles are expected to be accessible at the BESIII experiment. BESIII has recently performed searches of light Higgs and Dark Bosons in several decay modes using the data collected at J/ψ , $\psi(2S)$ and $\psi(3770)$ resonances. In the data sample at the J/ψ a search of possible invisible decays of light vector mesons V and pseudo-scalar mesons via $J/\psi \rightarrow VP$ decays ($V = \omega, \phi$ and $P = \eta, \eta'$) has also been performed. This talk will summarize BESIII recent results on these searches for new physics.

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