

Exotic Hadrons at BESIII

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Nowadays, experimentally observed states that are often assigned to the light meson or charmonium sector might indicate an exotic nature. Such exotic particles include glueballs, hybrids, and tetraquarks. Not only do these states pose a theoretical challenge, but experimentally it is often difficult to distinguish exotic and non-exotic matter and to characterise their nature. In such cases, it helps to compare different production mechanisms and decay patterns. This provides additional constraints and allows for e.g. a coupled channel partial wave analysis to describe the different spectra simultaneously. Therefore, gluon-poor two-photon fusion events and gluon-rich hadronic reactions as e.g. radiative J/ψ decays can be used to disentangle the highly populated light meson spectrum.

Therefore, BESIII offers great opportunities to combine different reactions and to shed light onto the light meson regime.

The BESIII experiment is collecting e^+e^- annihilation data in the tau-charm region with leading statistics. A large number of datasets above the open-charm threshold with center-of-mass energies of up to 5 GeV allows detailed studies of both conventional charmonia and charmonium-like states as well as light hadrons via decays. In this contribution, recent highlights and future plans for the spectroscopy of heavy and light exotic hadrons will be presented.

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