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BESIII plans for the XYZ studies: the case of the Y(4660)

Since few years, a new family of exotic states has been appearing above the open-heavy meson thresholds: the so-called XYZ states. BESIII at the BEPCII e+e- collider plays a unique role in the study of those particles in the charmonium sector. Changing the beam energy, BESIII can collect large data samples by means of scans of the resonant region, accessing directly to all vector states. As part of a larger upgrade program, BESIII has planned to increase the center of mass energy to reach 4.7 GeV: this will allow BESIII to investigate the nature of the Y(4660), that was first observed by Belle and BaBar after Initial State Radiation only in \pi\pi psi(2s) and Lambda_c anti-Lambda_c final states. The relative branching ratio seems to point toward a baryonium interpretation of the resonance, as expected in Rossi-Veneziano model. BESIII can directly measure the cross sections around the expected peak position and verify this prediction. In this presentation, the status of the XYZ searches at BESIII will be presented, with a focus also on the plans for the newest data taking and for the Y(4660) studies.

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