XVIth Quark Confinement and the Hadron Spectrum



Contribution ID: 213 Type: Plenary

Experimental review of exotic states discoveries in the last 20 years

Monday 19 August 2024 11:30 (30 minutes)

The quark model was formulated in 1964 to classify mesons as bound states made of a quark—antiquark pair, and baryons as bound states made of three quarks. However, in principle QCD also allows the existence of more complex structures, generically called exotic hadrons or known as XYZ states. These include fourquark hadrons (tetraquarks and hadronic molecules), five-quark hadrons (pentaquarks) and states with active gluonic degrees of freedom (hybrids), and even states of pure glue (glueballs). Exotic hadrons have been systematically searched for in numerous experiments for many years. This talk aims at reviewing the rapid progress in the field of exotic XYZ hadrons over the past 20 years in experiments.

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Session Classification: Plenary