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## Experimental hadron spectroscopy

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In scattering experiments, a multitude of hadronic states was observed already in the 50s and 60s of the last century. In order to explain their abundance, a systematic approach was taken to search for an underlying structure. Quantum chromodynamics was developed as a theoretical description of these strongly interacting particles, explaining the interactions between quarks and gluons, of which hadrons are built. However, this cannot fully describe the observed spectrum of states - in particular, the role of gluons and how they affect the properties of the observed states has not been resolved. Especially the discovery of quite a few unexpected “exotic” states in recent years has highlighted the need for precise spectroscopic measurement to understand the nature of the underlying interaction.

In this talk, it will be shown how we use experimental data from large-scale experiments to perform dedicated studies of the production and decay properties of hadrons in different processes and energy ranges. These studies provide valuable information for the classification and identification of the observed states.

### Preferred track

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