

Colloquio di Dipartimento

nell'ambito della scuola di dottorato

Venerdì, 18 Dicembre 2015

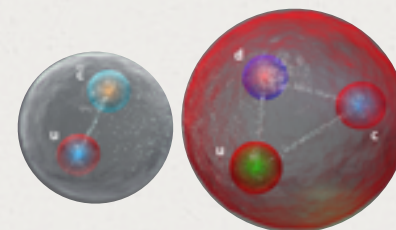
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Edificio U4 – Aula 8



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Pentaquarks and Tetraquarks at LHCb

I will discuss the discovery of two pentaquark states both decaying into a J/ψ meson and a proton. The decay mode defines the quark content as $c \bar{c} u u d$, and thus are called charmonium pentaquarks. These exotic structures are found in $\Lambda_b \rightarrow J/\psi K^- p$ decays using a full amplitude analysis using 7 and 8 TeV pp collisions from 3/fb of data collected by the LHCb experiment. The two states will be shown to be of opposite parity and have spins $3/2$ and $5/2$. I will also present a determination of spin parity of the $Z(4430)$ tetraquark meson, also a charmonium state. Finally different models of pentaquark structure will be discussed.