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Heavy glueballs

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Glueballs, i.e. bound state of gluons, were predicted to exist in the very early days of QCD. This expectation has been confirmed by numerous lattice calculations. However, glueballs could not yet be experimentally identified. While in the low-energy sector (below 2.6 GeV) some candidates exist, in the high-mass sector (between 2.6-5 GeV) the situation is not satisfactory. In this talk, after a brief review of the status of glueballs in general, we concentrate on novel aspects of glueball's search. A general discussion of the width of a heavy glueball is presented. Then, predictions for the decays of the vector glueball (whose mass is about 3.6 GeV according to lattice calculations) and for the decays of a pseudotensor glueball (whose mass is about 3 GeV) are shown. In the end, an outlook concerning other heavy glueballs is presented.

Author: Prof. GIACOSA, Francesco (Kielce University)

Presenter: Prof. GIACOSA, Francesco (Kielce University)

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