



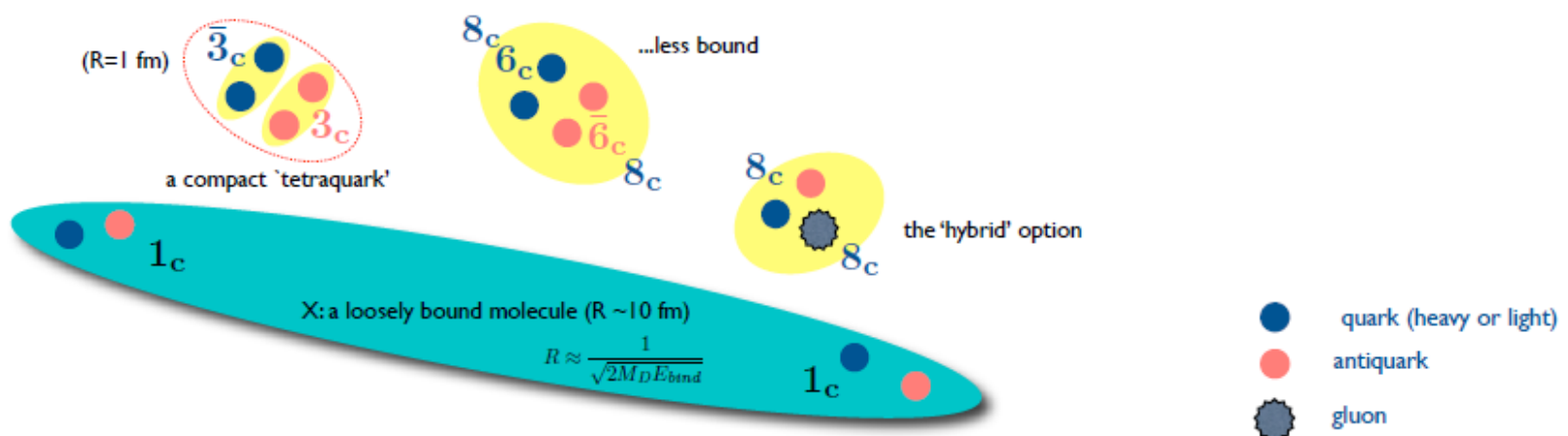
## Exotic mesons, XYZ, as tetraquarks.

Luciano Maiani (Rome)

**Tuesday, 30 June 2015, 16:45 h, DESY Auditorium**

In the last ten years several hidden charm or beauty mesonic resonances have been discovered at electron-positron colliders, which do not fit in the quarkonium scheme. In particular, the lastly discovered Z states are charged therefore, besides containing a  $c\bar{c}$  or  $b\bar{b}$  pair, they must include a  $u\bar{d}$  or  $d\bar{u}$  pair in their valence composition. The structure of XYZ has been the object of several speculations, from being “molecules” made of a pair of colourless mesons, to being bound states of coloured objects such as diquark-antidiquark pairs, tetra quarks for brief, to being pure illusions, cusps in the cross section related to meson-antimeson thresholds. In the seminar, I will discuss the diquark-antidiquark case, in the light of the most recent data and of theoretical considerations based on the  $N \rightarrow \infty$  limit,  $N$  being the number of QCD colours. Main emphasis will be on the hidden charmonium case, studied at length in Roma by our group. Consideration will also be given to hidden beauty states, studied in particular at DESY by Ali and collaborators.

### Models for X Y Z mesons



- Coffee, tea and cookies will be served at 16.30
- After the seminar there is a chance for private discussions with the speaker over wine and pretzels

