



Contribution ID: 48

Type: **not specified**

## Phenomenology of (open and hidden) charmed meson in a chiral symmetric model.

*Wednesday, 24 September 2014 11:30 (30 minutes)*

We present a  $U(4)_r \times U(4)_l$  chiral symmetric model, which includes scalar and pseudoscalar mesons as well as vector and axial-vector mesons. We compute charmed mesons masses, weak decay constants, and strong decay widths of (open and hidden) charmed mesons. Moreover, we calculate the decay width of a pseudoscalar ground state charmonium  $\eta_c$  into a pseudoscalar glueball and the decay widths of a scalar charmonium  $\chi_{c0}$  into the scalar glueball. The precise description of the decays of open charmed states is important for the CBM experiment at FAIR, while the description of hidden charmed states and the pseudoscalar glueball is vital for the PANDA experiment at the upcoming FAIR facility. In the end, we study the mixing of axial- and pseudo-vector charmed mesons.

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**Session Classification:** Talks