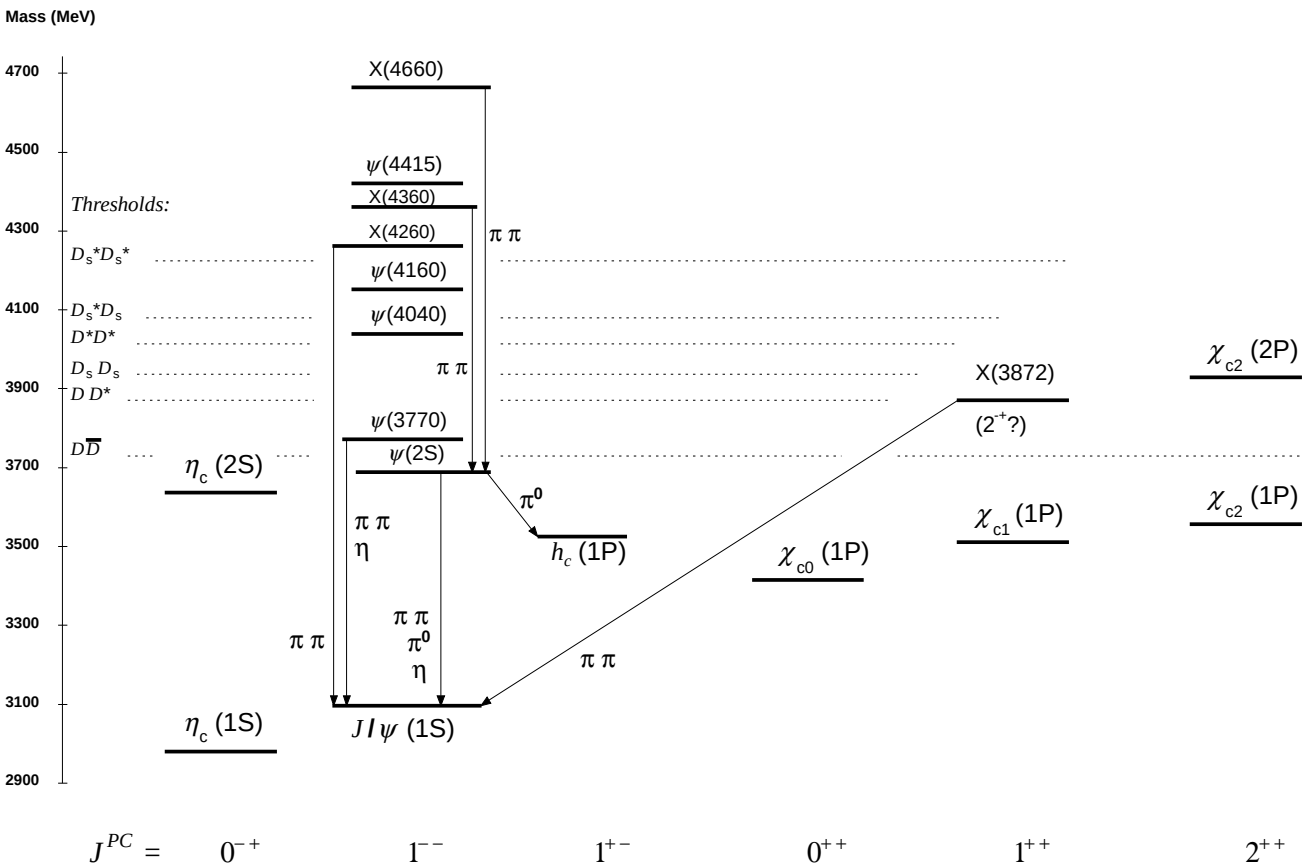
91. Charmonium System

Updated in 2012.



The level scheme of the $c\overline{c}$ states showing experimentally established states with solid lines. Singlet states are called η_c and h_c, triplet states ψ and χ_{cJ}, and unassigned charmonium-like states X. In parentheses it is sufficient to give the radial quantum number and the orbital angular momentum to specify the states with all their quantum numbers. Only observed hadronic transitions are shown; the single photon transitions $\psi(nS) \to \gamma\eta_c(mP)$, $\psi(nS) \to \gamma\chi_{cJ}(mP)$, and $\chi_{cJ}(1P) \to \gamma J/\psi$ are omitted for clarity.