

## THE CHARMONIUM SYSTEM

The level scheme of the  $c\overline{c}$  states showing experimentally established states with solid lines. Singlet states are called  $\eta_c$ and  $h_c$ , triplet states  $\psi$  and  $\chi_{cJ}$ , and unassigned charmoniumlike 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.