## NOTE ON $D$ MESONS

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The new experimental results on charm meson decays reported in this edition are mostly from CLEO II at the $e^+e^-$ storage ring CESR and from the Fermilab fixed-target experiments E687 and E791. A number of searches have been made for rare decays that are potentially sensitive to new physics, such as $D^0\overline{D}^0$ mixing (AITALA 96C and AITALA 98), $CP$-violating asymmetries in decay rates (AITALA 97B and AITALA 98C), and decays that would signal flavor-changing neutral currents (ADAMOVICH 97 and ALEXOPOULOS 97) or lepton-family number or lepton number violation (FRABETTI 97B). None of the searches has yielded evidence for new physics.

Significant progress has been made in the area of semileptonic charm decays. Five new results on rates for Cabibbo-suppressed semileptonic decays appear in this edition: $D^+ \to \rho\ell^+\nu_\ell$ from E687 (FRABETTI 97) and E791 (AITALA 97), $D^0 \to \pi^-\ell^+\nu_\ell$ from E687 (FRABETTI 96B), and $D^+ \to \pi^0\ell^+\nu_\ell$ and $\eta e^+\nu_e$ from CLEO (BARTELT 97). Our knowledge of the inclusive semileptonic decay rate for the $D^0$ is greatly improved by new results from ARGUS (ALBRECHT 96C) and CLEO (KUBOTA 96B). The precision of the measurement of the form-factor ratios in the decay $D^+ \to \overline{K}^{*0}\ell^+\nu_\ell$ has been improved by about a factor of two in a new analysis by E791 (AITALA 98B).

Many new studies of hadronic final states have been made, including measurements of singly and doubly Cabibbo-suppressed $D^0$ and $D^+$ decay rates and studies of resonant substructure.

New measurements of the $D_s^+$ decay constant have been made by the L3 collaboration (ACCIARRI 97F) and the E653 collaboration (KODAMA 96). However, the statistical and systematic uncertainties are still on the order of (10–20)% each. Other new measurements on the $D_s^+$ front include two inclusive branching fractions by BES (BAI 97 and BAI 98), and the first observation of $D_s^+ \to \omega\pi^+$ by CLEO (BALEST 97).

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