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Measurement of $\mathbf{BF}(B^0 \rightarrow \pi^- \ell^+ \nu)$ and $\mathbf{BF}(B^0 \rightarrow \rho^- \ell^+ \nu)$ using neutrino reconstruction AMANDA WEINSTEIN, SLAC, BABAR COLLABORATION — We present an analysis of exclusively reconstructed charmless semileptonic B -meson decays based on 88 million $B\bar{B}$ pairs recorded with the BaBar detector at the PEP-II e^+e^- storage rings. We study the four decay modes $B \rightarrow H_u \ell \nu$, where H_u represents a π^\pm, π^0, ρ^\pm , or ρ^0 , and ℓ is an electron or muon. The neutrino kinematics are inferred from the missing momentum and energy in the $B\bar{B}$ event. An extended maximum-likelihood fit is performed in bins of the three variables ΔE , the reconstructed minus the expected B -meson energy; m_{ES} , the beam-energy substituted B mass; and q^2 , the squared four-momentum transfer, to determine the branching fractions $\mathcal{B}(B' \rightarrow \pi^- \ell^+ \nu)$ and $\mathcal{B}(B' \rightarrow \rho^- \ell^+ \nu)$ using isospin symmetry. The measured q^2 spectra are used to fit the q^2 dependence of the $B \rightarrow \pi(\rho)\ell\nu$ decay form factors and compare with theoretical predictions from light-cone sum rules, quark models and recent lattice QCD calculations. We extract the CKM matrix element $|V_{ub}|$ using the various theoretical calculations.

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