Experimental studies of Ψ' decays to Vector plus Pseudoscalar Mesons

The processes $\psi(2S) \rightarrow$ vector plus pseudoscalar mesons are studied using a sample of 4 million $\psi(2S)$ events collected with the BES detector. Isospin violations are seen in $\psi(2S) \rightarrow K^*\overline{K}$ decays that are much larger and different in character to those seen in $J/\psi \rightarrow K^*\overline{K}$ decays. In addition, there is evidence for the isospin-violating process $\psi(2S) \rightarrow \omega\pi^0$ with a branching fraction that is larger than that for the SU(3)-allowed, isospin-conserving $\psi' \rightarrow \rho\pi$ and $\omega\eta$ reactions. The same reactions are studied for continuum $e{+}e^-$ annihilations with a 22 pb^{-1} data sample at $\sqrt{s} = 4.03$ GeV and a 7 pb^{-1} data sample at $\sqrt{s} = 3.55$ GeV. These data are used to evaluate the contribution of single photon annihilation to the observed isospin violations.