EXTRACTING THE WEAK PHASE γ FROM $B^{\mp}$ MESONS DECAYS TO TWO VECTOR D^{*} AND $K^{*\mp}$ MESONS

V.A. Kovalchuk

National Scientific Center
"Kharkiv Institute of Physics and Technology",
(*1, Akademichna Str., Kharkiv 61108, Ukraine;*
e-mail: koval@kipt.kharkov.ua)

S u m m a r y

A method to measure the weak phase γ and $r_{B\lambda}$, the magnitude of the ratios of the amplitudes $A_{\lambda}(B^{-} \to \overline{D}^{*0} K^{*-})$ to $A_{\lambda}(B^{-} \to D^{*0} K^{*-})$ through the interference of the charged B meson decay channels $B^{-} \to D^{*0} K^{*-}$ and $B^{-} \to \overline{D}^{*0} K^{*-}$, where the D^{*0} and $\overline{D}^{*0}$ decay to $D^{0}/\overline{D}^{0}\pi^{0}$ and to $D^{0}/\overline{D}^{0}\gamma$, has been proposed. As the common hadronic final states, the doubly Cabibbo-suppressed modes of decay D^{0}-mesons were chosen. We show that the CP violating asymmetries of $B^{-} \to D^{*0}/\overline{D}^{*0}\left(\to D^{0}/\overline{D}^{0}\,(\to K^{+}\pi^{-})\,\pi^{0}\right) K^{*-}$ and $B^{-} \to D^{*0}/\overline{D}^{*0}\left(\to D^{0}/\overline{D}^{0}\,(\to K^{+}\pi^{-})\,\gamma\right) K^{*-}$ decays have opposite signs.