this relationship. Models with additional quarks would remove the constraints due to the unitarity of the three-generation mixing matrix and hence lead to the failure of Eq. (9) [18]. (The absence of any fourth light neutrino determined from $Z$ decay rules out only a standard fourth generation with a light neutrino but does not exclude nonstandard fourth generation models.) *Any* observed deviations from the relationships predicted by the Standard Model will provide a window on the nature of physics beyond the Standard Model.

While the discussion above stresses those channels in which there is a simple relationship between any observed asymmetry and the parameters of the CKM matrix in the Standard Model, this does not means that other channels are entirely without interest. To date only the $CP$ violation in the neutral $K$ system has been observed. Any observation of $CP$ violation in $B$ decays would be exciting. The Standard Model prediction is that direct $CP$-violating asymmetries are likely to be at most a few percent, so large effects in these channels would suggest beyond Standard Model effects. On the other hand, even within the Standard Model the asymmetries due to the interference between decays with and without mixing in the neutral $B$ system can be quite large; current constraints do not rule out cases where Im $(r_{f_{CP}})$ is 1. It is likely that study of the many common decay channels of the $B^0$ and the $\overline{B}^0$ will greatly expand our understanding of the sources of $CP$ violation.

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