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Abstract for an Invited Paper for the APR16 Meeting of the American Physical Society

Flavor physics in the LHC era

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I will provide a comprehensive review of indirect searches for New Physics. I will discuss current theoretical challenges and successes in understanding decays and mixing parameters of beauty and charmed mesons. I will argue that allowed parameter space of many New Physics scenarios can be constrained from studies of charm or beauty transitions. This has immediate implications for the direct searches of physics beyond the Standard Model at the LHC and, in particular, for the solution of the flavor problem.