B Physics in Run II with upgraded CDF II

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Abstract

The new data taking for CDF will begin around the year 2000 with an upgraded detector. The major upgrades (tracking system and trigger) are motivated by the new accelerator beam crossing period. With the new detector the Run II physics program at CDF II will span a broad range of physics topics. One of these is the B physics. At $p\bar{p}$ collider several different measurements are possible as demonstrated in these last few years. CDF II will have the opportunity to repeat on new data analysis already done. For example high precision tests of the theory through the lifetime measurements will be possible only at the Tevatron for B_s, B_u and Λ_b. Besides, CDF II will have the possibility of new measurements. The CP violation parameter $\sin 2\beta$ will be measurable in the decay asymmetry of $B_d \to J/\psi K_s$ with an accuracy comparable with the B factories. Other CP parameters will be studied exploiting new trigger systems. Moreover, there will be a chance to study CP violation and mixing also in the B_s system unique to Tevatron collider.