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## Measurements of **b** hadron lifetimes and effective lifetimes at LHCb

*Saturday, July 7, 2012 2:00 PM (15 minutes)*

Precision measurements of **b**-hadron lifetimes are a key goal of the LHCb experiment. In the  $B_0$ s sector, the measurement of the effective lifetimes for  $B_0$ s mesons decaying to CP-odd, CP-even and flavour specific final states are essential for constraining the  $B_0$ s mixing parameters,  $\Delta\Gamma$ s, the average width  $\Gamma$ s and the CP-violating phase,  $\varphi$ s. We present measurements of the effective lifetimes of  $B_0$ s  $\rightarrow K^+ K^-$ ,  $B_0$ s  $\rightarrow J/\psi f_0(980)$  and  $B_0$ s  $\rightarrow J/\psi \phi$  using  $1.0 \text{ fb}^{-1}$  of data collected by LHCb in 2011.

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