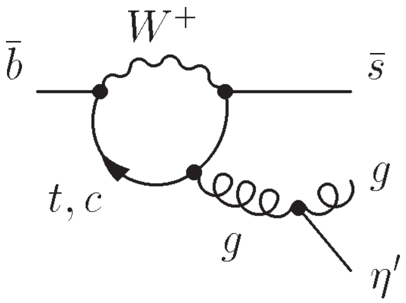
$\mathcal{B}(B \to \eta' X_S) = (7.5 \pm 1.5 \pm 1.1) \times 10^{-4}$ for $2.0 < p_{\eta'} < 2.7$ GeV/c

- Such a large $\mathcal{B}$ quite unexpected
- Possible color-suppressed B decay background from $B \to D\eta'$ and $B \to D^*\eta'$ but both peak in X_s mass.

Theoretical explanations:

- QCD anomaly



  - ⋆ Atwood & Soni $b \to sg^*$, $g^* \to g\eta'$
  - ⋆ Hou & Tseng (same with new physics)

- Intrinsic charm
  - ⋆ Halperin&Zhitnitsky
  - ⋆ Yuan&Chao