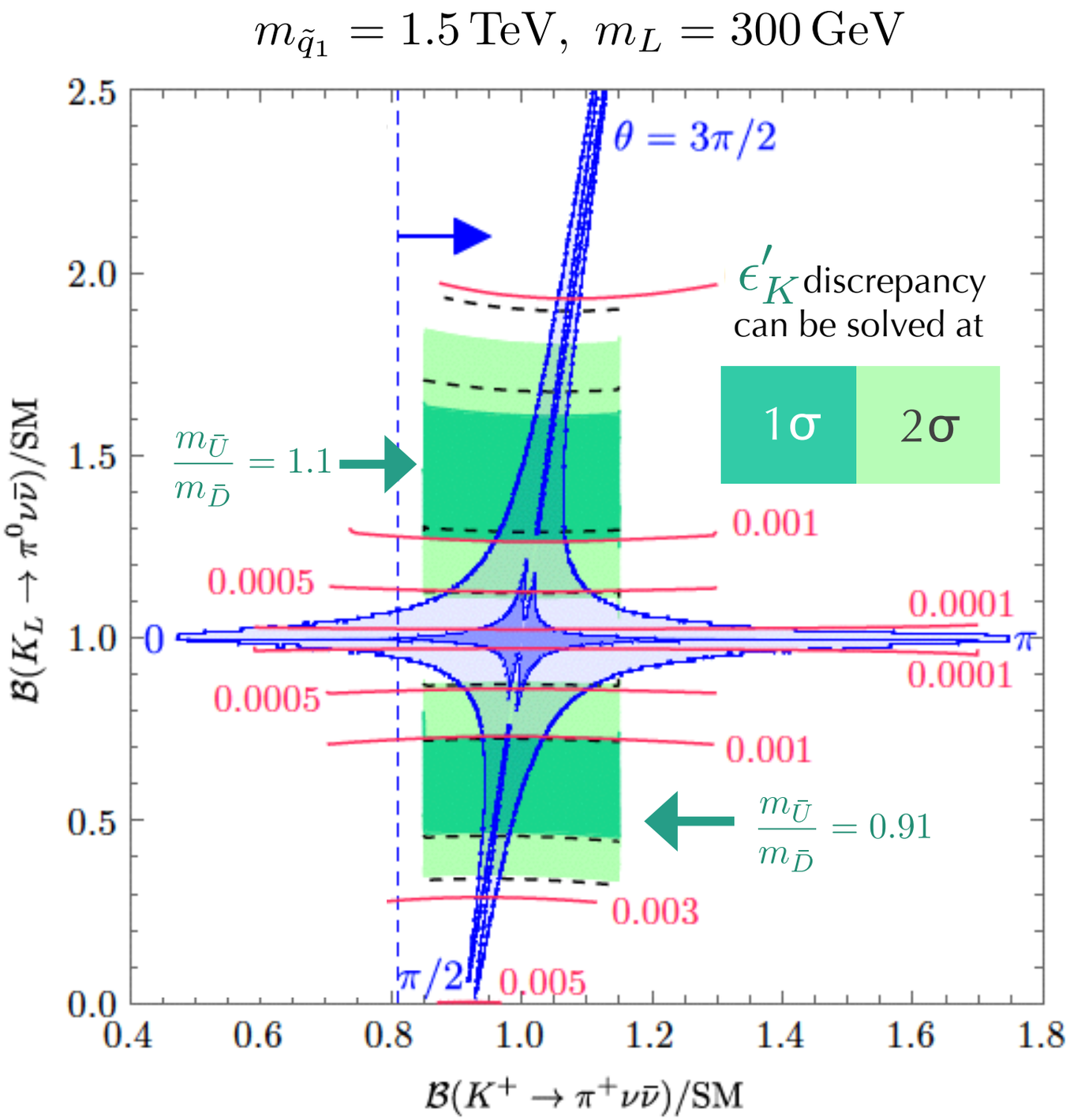
B(K→πνν)

[Crivellin, D'Ambrosio, **TK**, Nierste, '17]



more than 10% mass shift of the gluino mass from $M_3 \simeq 1.45 M_S$ is possible in light of the constraint from ϵ_K

1-10 % mass shift of the gluino mass is possible

$\mathcal{B}(K_L \to \pi^0\nu\bar{\nu})/\mathrm{SM} \lesssim 2\,(1.2)$

$\mathcal{B}(K^+ \to \pi^+\nu\bar{\nu})/\mathrm{SM} \lesssim 1.4\,(1.1)$

for a fine-tuning at the 1(10)% level

- $m_{\bar{U}}/m_{\bar{D}}$ determines a position of the green band
- Positive ϵ'_K predicts a strict correlation

$$\mathrm{sgn}\left[\mathcal{B}(K_L \to \pi^0\nu\bar{\nu}) - \mathcal{B}^{\mathrm{SM}}(K_L \to \pi^0\nu\bar{\nu})\right] = \mathrm{sgn}\left[m_{\bar{U}} - m_{\bar{D}}\right]$$

$$\mathrm{sgn}\left[m_{\bar{U}} - m_{\bar{D}}\right] \xrightarrow{\epsilon'_K} \arg\left[m^2_{Q12}\right] \Rightarrow \mathrm{sgn}\left[\mathcal{B}(K_L \to \pi^0\nu\bar{\nu}) - \mathcal{B}^{\mathrm{SM}}(K_L \to \pi^0\nu\bar{\nu})\right]$$