$Z_m(\mu = 2.000 \text{ GeV})$ $Z_m(am_q) = k_1 + k_2 am_q \log(am_q) + k_3 (am_q)^2$ **C**1 F1S fit *p*-value:0.00 fit *p*-value:0.00 fit *p*-value:0.00 $---am_q^* (M_{\eta_c}^* = 2.4 \text{ GeV})$ $--am_q^* (M_{\eta_c}^* = 2.4 \text{ GeV})$ $---am_q^* (M_{\eta_c}^* = 2.4 \text{ GeV})$ 8 -9 -6.5 $---am_q^* (M_{\eta_c}^* = 2.6 \text{ GeV})$ $---am_q^* (M_{\eta_c}^* = 2.6 \text{ GeV})$ $---am_q^* (M_{\eta_c}^* = 2.6 \text{ GeV})$ $---am_q^*(M_{\eta_c}^* = PDG)$ $--am_q^*(M_{\eta_c}^* = PDG)$ $---am_q^*(M_{\eta_c}^* = PDG)$ ightharpoonup simulated am_q simulated am_q simulated am_q 8 6.0 6 -5.5 6 5.0 -4 · 4.5 -0.2 0.3 0.4 0.3 0.5 0.0 0.2 0.1 0.0 0.1 0.2 0.4 0.1 0.3 0.4 0.0 am_q am_q am_q