Comparison of Darcy-Weisbach friction models 10^{0} Darcy-Weisbach friction coefficient, Cheng, 2008 Bellos et al., 2018 $k_s/h = 1.0$ 10^{-1} $k_s/h = 0.1$ $k_s/h = 0.02$ $k_s/h = 0.01$ $k_s/h = 0.005$ $k_s/h = 0.002$ $k_s/h = 0$ 10^{-2} 10^{2} 10^{3} 10^{5} 10^{4} 10^{6} Reynolds number, $Re_h = \frac{|\vec{u}|h}{\nu}$