Chapter 1

# Conclusions

We have performed a QCD analysis on hadronic $\tau$ decays to determine a value of $\alpha_s$ at the $m_\tau^2$ scale without including DV. We have excluded DV to contrast the previous analysis of Boito et al., which stated the necessity of incorporating a model describing DV. To argument we employed a new set of weights to probe the suppression of DV.

The the strong coupling we obtained at the $m_\tau^2$ scale from our fits is

$$\alpha_s(m_\tau^2) = 0.3308(44). \tag{1.0.1}$$

Running this value to the $m_z$ scale yields

$$\alpha_s(m_Z) = 0.1200. \tag{1.0.2}$$

For DV we found that in the framework of FOPT in the V+A channel no additional model is needed for double pinched weights. Even for single pinched weights we obtained stable results.

We also performed fits using the BS, yielding comparable results to the values obtained from FOPT. In the debate of FOPT vs CIPT we interpret this outcome in favour of the former and discourage the usage of CIPT.