



Figure 4.4: A plot of m_ρ vs m_π^2 in the Constable-Myers background on the left. Lattice data [1] (preliminary, quenched and at finite spacing) for the same quantity is also shown on the right.

4.5 m_ρ vs. m_π^2

We can compare the dependence of the rho meson mass on the pion mass squared. This is an interesting thing to do because the same result has been computed for large N in lattice simulations [1], so a direct comparison of gauge/gravity and lattice results is possible. We show the result in figure 4.4.

We have chosen units in the Constable-Myers geometry such that we can compare directly with the lattice results of [1]. It is striking that not only does the lattice data display the same linearity as the gauge/gravity result, but that the slopes are so similar (0.52 and 0.57 respectively). This is one of many examples where AdS predictions match QCD much better than one would naively expect. In the next section we explore some more predictions.