1125-14-3137 **Steven Rayan*** (rayan@math.usask.ca), Department of Mathematics and Statistics, University of Saskatchewan, McLean Hall, Saskatoon, SK S7N 5E6, Canada. *The quiver at the bottom of the twisted nilpotent cone on* $\mathbf{P}^1$.

For the moduli space of Higgs bundles on a Riemann surface of positive genus, critical points of the natural Morse-Bott function lie along the nilpotent cone of the Hitchin fibration and are representations of A-type quivers in a twisted category of holomorphic bundles. The fixed points that globally minimize the function are representations of A_1. For twisted Higgs bundles on the projective line, the quiver describing the bottom of the cone is more complicated. We determine it. We show that the moduli space is topologically connected whenever the rank and degree are coprime, thereby verifying conjectural lowest Betti numbers coming from high-energy physics. (Received September 21, 2016)