1003-14-1032   **Xinyun Zhu*** (`zhu5@math.uiuc.edu`), Department of Mathematics, University of Illinois, Urbana, IL 61801. *Finite representations of a quiver arising from string theory.* Preliminary report.

In a continuation of Cachazo, Katz and Vafa ("Geometric transitions and $\mathcal{N} = 1$ quiver theories" (hep-th/0108120)), we examine representations of "$\mathcal{N} = 2$ quivers" arising from string theory. We derive some mathematical consequences of the physics, and show that these results are a natural extension of Gabriel's ADE theorem. Extending the usual ADE case that relates quiver representations to curves on surfaces, we relate these new quiver representations to curves on threefolds. (Received October 02, 2004)