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SULI Peer Review

I reviewed George Kharchilava's poster presentation, "Time-Delay Cosmography: Spectroscopy of Galaxies in the Environment of the J1537 Lensed Quasar System." The goal of his project is to constrain Hubble's constant, H_0, by creating a model for a lensed quasar system and measuring the differences in arrival time between the four images of the quasar that result from gravitational lensing. In order to construct a lens model for this system, he must measure the redshifts of this system for each of the four masks that were applied when observing this quasar. His results indicate that there are two "perturber" galaxy clusters present along the light paths that could potentially affect the gravitational lensing of the quasar. The next steps of his project will be to calculate the flexion shifts, which will determine whether or not these perturbers need to be accounted for in the lensing model – making this model as accurate as possible will be crucial to determining more accurate constraints on H_0.

George did a very good job explaining the background and motivation behind his project. He explained Hubble's constant and gravitational lensing in a way that was easy to understand, and his words were complemented by the figures on his poster, which show very nice diagrams of gravitational lensing. George presented the rest of his poster very well too, and while I had some clarifying questions at the end, he was able to answer all of them and explain the things I didn't fully understand. Additionally, George's poster is organized very neatly and concisely, with not too much text, making it easy to read everything and understand all of the figures. The one drawback of this is that there are some details missing from the poster, but I think George filled in these gaps with his presentation. Overall, George's poster and presentation were very informative and he did a great job explaining the details of his project.