

Near infrared observations with SINFONI Monitoring the Dusty S-Cluster Object (DSO) on its trajectory around SgrA*

F. Peissker¹, A. Eckart^{1,2}, M. Parsa^{1,2}, M. Zajacek^{1,2}, M. Valencia-S.¹, and B. Shahzamanian¹

¹ I.Physikalisches Institut der Universitt zu Kln, Zülpicher Str. 77, 50937 Köln, Germany;
e-mail: peissker@ph1.uni-koeln.de

² Max-Plank-Institut fr Radioastronomie, Auf dem Hügel 69, 53121 Bonn, Germany

We present the results of our 2014 SINFONI observations during which we followed the dusty S-cluster object (DSO) on its way around SgrA*. Since its discovery in 2011 by Gillessen et al. a lot of assumptions and predictions were made about nature, origin and fate of the object by several authors. As already stated by Eckart et al. in 2013, it is highly unlikely that the activity of SgrA* increases because of the passage of the DSO. Until now, we have not detected an increased NIR or radio activity before or after its peri-center passage in 2014.55 nor did we detect the proposed stretching of the Br-gamma emission in the time before, during and after the periaps. To underline these statements we present a sample of isolated Br-gamma line maps for different years. We give a close look at the used methods and compare our 2014 dataset with results from the literature. Furthermore we applied the Lucy Richardson deconvolution algorithm on the infrared continuum maps of the central stellar cluster. We clearly detect the DSO as a compact source on its way to the very center of our galaxy. In order to show the robustness of the applied tools and methods we compare the "raw" data cube with the line maps, the convolved continuum maps and present additionally the designated position velocity diagrams.