

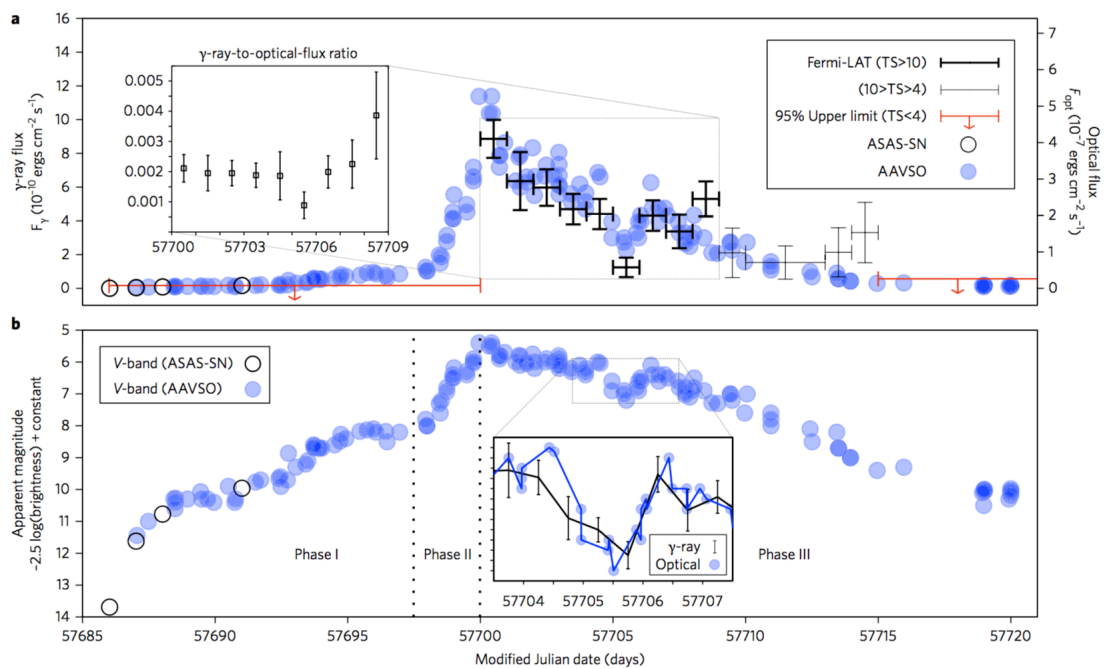
# Bachelor / Master project at DESY

## Real-time follow-up of optical transients with HESS

### Project Description

Current and future optical survey instruments will detect  $O(10^4 - 10^5)$  optical transients per night. However, among the thousands of alerts produced by e.g. the Zwicky Transient Facility (ZTF), only a few Novae, nearby Supernovae, and flaring-star candidates are predicted gamma-ray emitters and are hence of interest for a gamma-ray follow-up with HESS.

The project aims at developing a *python* module to be incorporated into the ZTF AMPEL pipeline to select interesting optical transients for HESS follow-up. This procedure will be used to search for interesting targets, and to trigger HESS follow-up observations. The candidate will have the opportunity to analyse HESS data of interesting transient candidates, identified via this pipeline or via other methods.



Comparisons of the optical and gamma-ray lightcurve as measured with Fermi-LAT of a Nova (Li et al, 2017, Nature Astronomy).



The H.E.S.S. telescopes in Namibia