Michael Zacharias, Jonathan Heil, Markus Böttcher, Felix Jankowsky, Jean-Philippe Lenain, Stefan Wagner, Alicja Wierzcholska

The ablation of gas clouds by blazar jets and the long-lasting flare in CTA 102

- Bright, long-lasting (order of months) blazar flares are a curious phenomenon
- The ablation of (large) gas clouds can explain such flares, as the intrusion of the cloud into the jet takes a long time, while it is slowly devoured by the jet
- Indeed, the parameters of the cloud have a strong influence on the resulting light curve. While the light curves are symmetric, their curvature, duration, and brightness depend strongly on the cloud's density structure
- This model is applied to the 4-months-long flare of the blazar CTA 102 successfully reproducing the long-term trend
- Parameter estimates indicate that the cloud traversing the jet could be part of a star-forming region