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# Long-term lightcurves from combined unified very high energy $\gamma$ -ray data

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Very high-energy (VHE,  $E > 100$  GeV)  $\gamma$ -ray data are a valuable input for multi-wavelength and multi-messenger (e.g. combination with neutrino data) studies. We aim at the conservation and homogenization of historical, current, and future {VHE  $\gamma$ -ray-data} on active galactic nuclei (AGN). We have collected lightcurve data taken by major VHE experiments since 1991 and combined them into long-term lightcurves for several AGN, and now provide our collected datasets for further use. Due to the lack of common data formats in VHE  $\gamma$ -ray astronomy, we have defined relevant datafields to be stored in standard data formats. The time variability of the combined VHE lightcurve data was investigated, and correlation with archival X-ray data collected by {{\em RXTE}/ASM} tested. The combination of data on the prominent blazar Mrk\,421 from different experiments yields a lightcurve spanning more than a decade. From this combined dataset we derive an integral baseline flux from Mrk\,421 that must be lower than 33\,% of the Crab Nebula flux above 1\,TeV. The analysis of the time variability yields log-normal flux variations in the VHE-data on Mrk\,421. Existing VHE data contain valuable information concerning the variability of AGN and can be an important ingredient for multi-wavelength or multi-messenger studies. In the future, upcoming and planned experiments will provide more data from many transient objects, and the interaction of VHE astronomy with classical astronomy will intensify. In this context a unified and exchangeable data format will become increasingly important. Our data collection is available at the url: {\tt {this http URL}}.

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