

A new unfolding method for the MAGIC telescope

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Abstract

The presented thesis describes an unfolding method whose principle is to determine the probability that a certain set of events has a certain range of energy. Unfolding methods are not related to the analyzed data and one is interested in the extent to which the unfolding solution encapsulates the unfolding variables in the data. For this purpose, new factors have been defined. These factors enable the use of the unfolding methods for obtaining information about the unfolding variables in the data, independent of the unfolding solutions. Amongst others, this information determines whether the unfolding variables exist in the data after applying standard (analysis) cuts or additional ones. This opens the way to study the effects of different cuts on the data and how they will change the content of the unfolding variables in the data. Additionally, the unfolding method is applied to three special AGN: Markarian 421, Markarian 501 and PKS 2155-304. The obtained spectra follow the results of already established methods, and in most of the cases (Markarian 501 and PKS 2155-304) the spectra could be extended to higher and/or lower energies.