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Look Elsewhere Effect in 2D

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Based on

Estimating the significance of a signal in a multi-dimensional search

Ofer Vitells, Eilam Gross (Weizmann Inst.). May 2011. 5 pp.

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Summary

What happens when one has to consider that a background fluctuation might arise at an arbitrary mass AND with an arbitrary width?

How can a multidimensional Look Elsewhere Effect be taken into account without the need for expensive Monte Carlo simulations. We will present the analytic solution and its implication to the recent di photon excess observed in the LHC.

Primary authors: GROSS, Eilam (Weizmann Institute of Science (IL)); VITELLS, Ofer (Weizmann Institute of Science (IL))

Presenter: GROSS, Eilam (Weizmann Institute of Science (IL))

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