

Search for Extra Dimensions in the Diphoton Channel

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We present a search for extra dimensions in the diphoton channel using the CMS detector at the Large Hadron Collider. The search is focused on the forthcoming 2009–2010 run at 10 TeV center-of-mass energy and ~ 100 *pb* of data. We discuss event selection and optimization, as well as data-driven methods of estimating various backgrounds and efficiencies. The dominant source of background after all the selection requirements is SM diphoton production. We quote the sensitivity of the search both in terms of limits on the parameters of large and warped extra dimensions in the case of no excess observed, and in terms of signal discovery significance, if an excess is seen in data.

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