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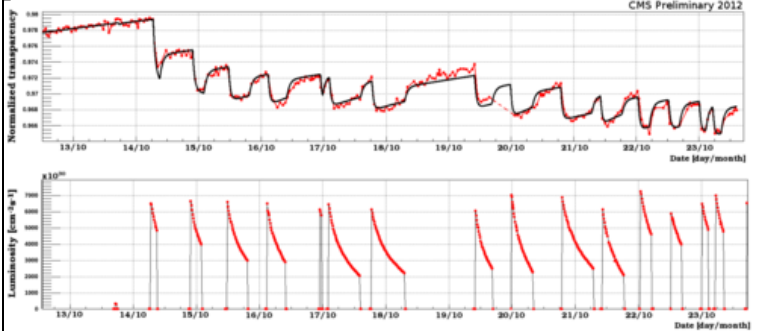
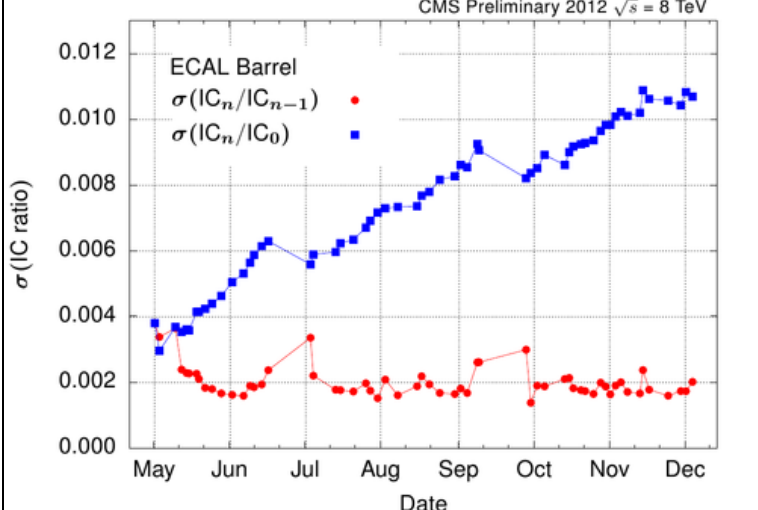
# CMS-DP-2013/016

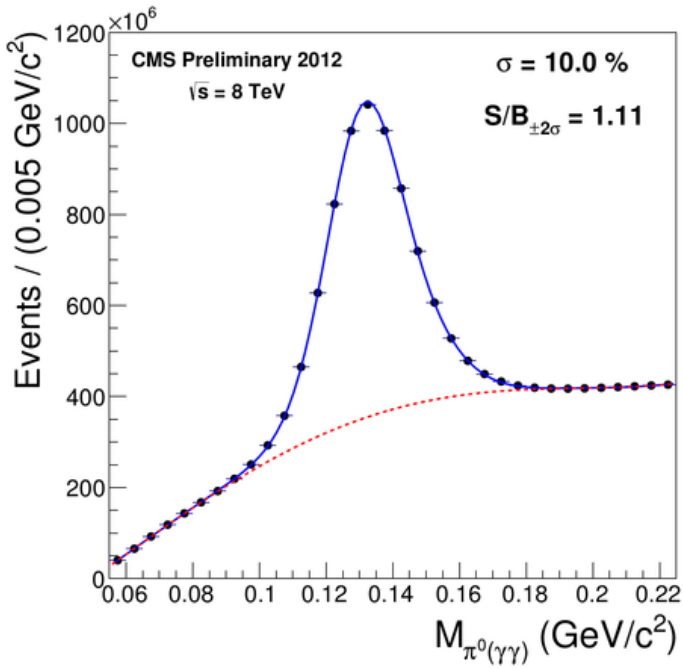
## 2012 ECAL detector performance plots (2)

**Abstract:** Second collection of plots summarizing ECAL performance on 2012 data. First collection in CMS-DP-2013-007

CDS entry [↗](#)

iCMS entry [↗](#)

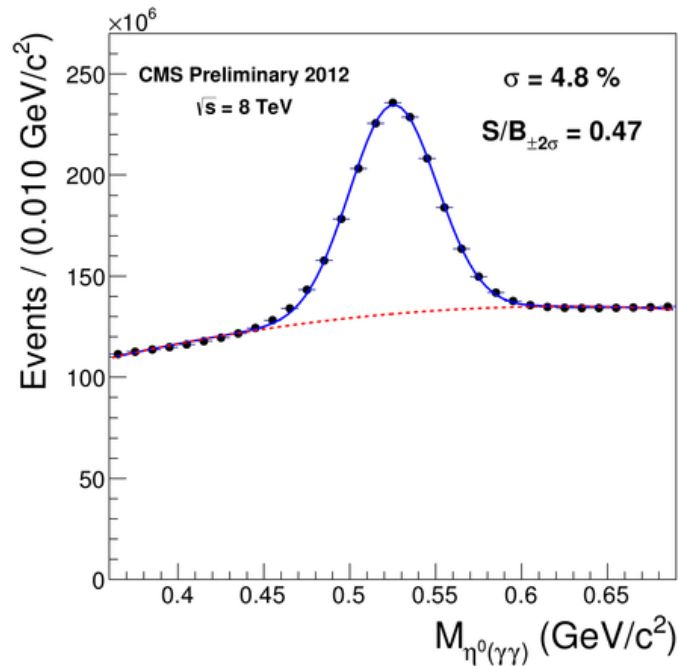
Figure	Caption
<p>pdf version</p> 	<p><b>Crystal transparency loss behavior</b> Top plot: fit on dynamic model of color centers creation/recovery under irradiation to explain the changes of the crystal transparency. Each color center has 3 free parameters: creation rate, saturation level and recovery rate. Bottom plot: instantaneous luminosity as a function of time. N.B. this is an illustrative plot. Fit results are not used in the calibration. Only laser data (points) are used.</p>
<p>pdf version</p> 	<p><b>Evolution of the <math>\sigma</math>-symmetry intercalibration constants in 2012</b> Time evolution of the standard deviation of the ratio distribution between two sets of inter-calibration constants (IC). The intercalibration is performed with the <math>\sigma</math>-symmetry method for individual ECAL barrel crystals using 2012 data. The standard deviation is determined by a Gaussian fit to the ratio distribution.</p>
<p>pdf version</p>	<p><b><math>0/\gamma</math> invariant mass distributions with 2012 data</b> Top (bottom) plot: <math>0/\gamma</math> invariant mass peaks reconstructed in Barrel with 2012 data. Spectrum fitted with a combination of a double (single) Gaussian for the signal and 4th (2th)order polynomial for the background. The entire 2012 dataset is considered, using special online <math>0/\gamma</math> calibration streams. The sample size is determined by the rate of this calibration stream. S/B and fitted resolution indicated on the</p>



plots.

The fitted peak positions are not exactly at the nominal  $0/$  mass values. This is mainly due to the effects of selective readout and leakage outside the 3x3 clusters used in the mass reconstruction.

pdf version



This topic: CMSPublic > EcalDPGResultsCMSDP2013016

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