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Summaries of CMS cross section measurements

This page contains various summary plots of CMS cross section measurements. Links are provided to CMS publications and preliminary documentation. References to the predicted cross section are found in the referenced documents.

CMS Cross Section measurements

![Di-boson cross section ratio comparison to theory](image)

Di-boson cross section ratio comparison to theory: Theory predictions updated to latest NNLO calculations where available compared to predictions in the CMS papers and preliminary physics analysis summaries.
Summary of the cross sections of pure Electroweak (EWK) interactions among the gauge bosons presented as a ratio compared to theory.

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CMS Cross Section measurements

Summary of the cross sections standard model particles produced in association with jets.
Summary of production cross sections involving top quarks

Additional Standard Model Cross Section Summary Plots

References for Cross Section Summary Plots

**Summary of limits on anomalous triple and quartic gauge couplings**

- Limits compilation with plots

**Summary of alphaS running**

An overview of $\alpha_s(M_Z)$ measurements using hadrons. The eight CMS measurements (in red) are:

- $t\bar{t}$: Phys. Lett. B 738 (2014) 526
- inclusive jets at 8 TeV: JHEP 03 (2017) 156
- $R_{32}$ at 8 TeV: CMS-PAS-SMP-16-008
- $t\bar{t}$: arXiv 1812.10505
- Multi-diff $t\bar{t}$: CMS-PAS-TOP-18-004

B-physics related figures

B-hadron production cross-sections in pp collisions at 7 TeV:

Summary of alphaS running

EXO summary plot

Results from the Exotica (EXO) group

B-physics related figures
Results from the Exotica (EXO) group

B2G summary plot

EXO summary plot
### SUSY summary plots

Summary of exclusion limits CMS SUSY searches assuming RPC and RPV

<table>
<thead>
<tr>
<th>summary &quot;bar&quot; plots</th>
<th>caption</th>
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<tbody>
<tr>
<td><a href="#">Summary of CMS SUSY Results in SMS framework</a></td>
<td>Best exclusion limits for the masses of the mother particles, for RPC scenarios, for m(LSP) = 0 GeV (dark shades) and m(mother) - m(LSP) = 200 GeV (light shades); for each topology, for all results. In this plot, the lowest mass range is m(mother)=0, but results are available starting from a certain mass depending on the analyses and topologies. Branching ratios of one are assumed, values shown in plot are to be interpreted as upper bounds on the mass limits, see the analyses documentations for details. (Note: theory uncertainties not included.)</td>
</tr>
<tr>
<td><a href="#">B2G summary plot</a></td>
<td>Best exclusion limits for the masses of the mother particles, for RPV scenarios, for each topology, for all results. In this plot, the lowest mass range is m(mother)=0, but results are available starting from a certain mass depending on the analyses and topologies. Branching ratios of one are assumed, values shown in plot are to be interpreted as upper bounds on the mass limits, see the analyses documentations for details.</td>
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</table>
Additional SUSY summary plots may be found in this page.

-- LandsbergG - 20 Nov 2013

This topic: CMSPublic > PhysicsResultsCombined
Topic revision: r92 - 2020-05-26 - MattHerndon