

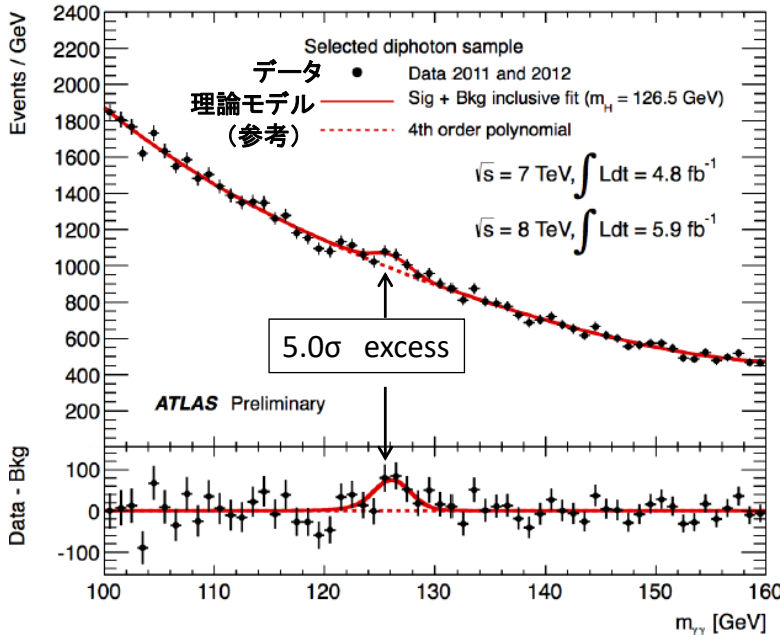
ヒッグス粒子らしい粒子を発見したとの報道

2012/7/4 at CERN

https://indico.cern.ch/event/197461/contributions/1478916/attachments/290953/406671/ATLAS_Higgs-CERN-seminar-2012.pdf にある図から作成

ATLAS チーム

理論モデルと実験データの適合度を示す図



$m_{\gamma\gamma}$ spectrum fit, for each category, with Crystal Ball + Gaussian for signal plus background model optimised (with MC) to minimize biases
Max deviation of background model from expected background distribution taken as systematic uncertainty

主な系統誤差

Main systematic uncertainties

Signal yield	
Theory	~ 20%
Photon efficiency	~ 10%
Background model	~ 10%
Categories migration	
Higgs p_T modeling	up to ~ 10%
Conv/unconv γ	up to ~ 6%
Jet E-scale	up to 20% (2j/VBF)
Underlying event	up to 30% (2j/VBF)
$H \rightarrow \gamma\gamma$ mass resolution	~ 14%
Photon E-scale	~ 0.6%

ATLAS today's main result (preliminary):
5.0 σ excess at $m_H \sim 126.5$

These accomplishments are the results of more than 20 years of talented work and extreme dedication by the ATLAS Collaboration, with the continuous support of the Funding Agencies

More in general, they are the results of the ingenuity, vision and painstaking work of our community (accelerator, instrumentation, computing, physics)

ICHEP Melbourne

ATLAS Collaboration

ATLAS Experiment

Argentina
Armenia
Australia
Austria
Azerbaijan
Belarus
Brazil
Canada
Chile
China
Colombia
Czech Republic
Denmark
France
Georgia
Germany
Greece
Israel
Italy
Japan
Morocco
Netherlands
Norway
Poland
Portugal
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