Farewell to higgs

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Abstract: RUN I of LHC took no significant new results. There are not super partners, no black holes, no extra dimensions, or dark matter particles, and so on. A single newly discovered particle turned out to be a hadrons multiplet but not Higgs.

Keywords: Large Hadron Collider, dark matter, higgs

1. Introduction

Large Hadron Collider (LHC) started work in September 2008. The budget of the project as of November 2009 amounted to - $ 6 billion. So much has been invested in the construction of the installation, which lasted seven years, During operation of the collider rated power consumption is 180 mW. Proposed energy all CERN in 2009 in view of working collider - 1000 GWh, of which 700 GWh will have a share of the accelerator. This energy - about 10% of the total annual energy consumption of the Canton of Geneva. CERN itself does not produce energy, having a back-up diesel generators. The total number of employees is approximately 2.5 thousand people.

2. LHC Run I

Here are some of the results of the LHC Run I:

- LHC results for dark matter from ATLAS and CMS
  http://arxiv.org/abs/1510.01516
  "No deviation from SM background expectation was found "
- Search for a light Higgs boson in the radiative decays of J/psi
  http://arxiv.org/abs/1510.01641"
  We find no evidence for A^0 production"
- Searches for a heavy scalar boson H decaying to a pair of 125 GeV Higgs bosons hh or for a heavy pseudoscalar boson A decaying to Zh, in the final states with h to tautau
  http://arxiv.org/abs/1510.01181
  "No excess is found above the standard model expectation"
- Low radioactivity argon dark matter search results from the DarkSide-50 experiment
  http://arxiv.org/abs/1510.00702
  " We found no evidence for dark matter in the form of WIMPs"
- Search for the associated production of a Higgs boson with a single top quark in proton-proton collisions at sqrt(s) = 8 TeV
  http://arxiv.org/pdf/1509.08159.pdf
  "No significant excess of events"
- Search for the production of an excited bottom quark decaying to tW in proton-proton collisions at sqrt(s) = 8 TeV
  http://arxiv.org/abs/1509.08141
  "No significant excess of events is observed"
- Search for magnetic monopoles and stable particles with high electric charges in 8 TeV pp collisions with the ATLAS detector

http://arxiv.org/abs/1509.08059
"No event is found "

- Search for the electroweak production of supersymmetric particles in $\sqrt{s}$=8 TeV pp collisions with the ATLAS detector http://arxiv.org/abs/1509.07152"
  No significant excess beyond Standard Model expectations is observed. "
- Search for $B^0 \to ?^- ?^+ ?_?$ with hadronic tagging at Belle http://arxiv.org/abs/1509.06521"
  No significant signal is observed"
- Search for W' to tb in proton-proton collisions at sqrt(s) = 8 TeV http://arxiv.org/pdf/1509.06051.pdf"
  no signs of a new physics signal."
- Search for flavour-changing neutral current top quark decays $t\to Hq$ in pp collisions at $\sqrt{s}=8$ TeV with the ATLAS detector http://arxiv.org/abs/1509.06047
  "No significant excess of events above the background expectation is found"
- Search for new phenomena in events with at least three photons collected in pp collisions at $\sqrt{s}$ = 8 TeV with the ATLAS detector http://arxiv.org/pdf/1509.05051
  "No excess above background is detected"
- Search for direct scalar top pair production in final states with two tau leptons in pp collisions at $\sqrt{s}=8$ TeV with the ATLAS detector http://arxiv.org/abs/1509.04976
  "No significant excess over the Standard Model expectation is found."
- Searches for Higgs boson pair production in the $hh\to bb??, ??WW*, ??bb, bbbb$ channels with the ATLAS detector http://arxiv.org/abs/1509.04670"
  No evidence of their production is observed "
- Search for pair production of a new heavy quark that decays into a W boson and a light quark in pp collisions at $\sqrt{s} = 8$ TeV with the ATLAS detector http://arxiv.org/abs/1509.04261
  " No evidence of $Q\bar{Q}$ production is observed."
- Search for single production of scalar leptoquarks in proton-proton collisions at sqrt(s) = 8 TeV http://arxiv.org/pdf/1509.03750.pdf
  "The observed data are consistent with the no-signal hypothesis"
- Search for pair production of first and second generation leptoquarks in proton-proton collisions at sqrt(s) = 8 TeV http://arxiv.org/pdf/1509.03744.pdf
  ". There are no significant deviations from SM background predictions."
- Hidden photon CDM search at Tokyo http://arxiv.org/abs/1509.00785"
  we found no evidence"
- Limit on the production of a low-mass vector boson in $\mathrm{e}^{+}\mathrm{e}^{-} \to \mathrm{U}?$, $\mathrm{U} \to \mathrm{e}^{+}\mathrm{e}^{-}$ with the KLOE experiment http://arxiv.org/abs/1509.00740
  "We did not find evidence for a signal"
- Constraints on new phenomena via Higgs boson couplings and invisible decays with the ATLAS detector http://arxiv.org/pdf/1509.00672.pdf
  "No significant deviation from the SM expectation is found"
- Search for single top-quark production via flavour changing neutral currents at 8 TeV with the ATLAS detector http://arxiv.org/abs/1509.00294

" No signal is observed"

- Search for a high-mass Higgs boson decaying to a W boson pair in pp collisions at $\sqrt{s} = 8$ TeV with the ATLAS detector
  http://arxiv.org/abs/1509.00389
  "No evidence of a high-mass Higgs boson is found"
- Search for invisible decays of a Higgs boson using vector-boson fusion in pp collisions at $\sqrt{s}=8$ TeV with the ATLAS detector
  http://arxiv.org/pdf/1508.07869.pdf
  "no statistically significant excess is observed in data"
- Search for a charged Higgs boson in pp collisions at sqrt(s) = 8 TeV
  http://arxiv.org/abs/1508.07774
  "No signal is observed"
- Search for supersymmetry in the vector-boson fusion topology in proton-proton collisions at sqrt(s) = 8 TeV
  http://arxiv.org/pdf/1508.07628
  "The observed mjj distributions do not reveal any evidence for new physics."
- Search for flavour-changing neutral current top-quark decays to qZ in pp collision data collected with the ATLAS detector at $\sqrt{s}=8$ TeV
  http://arxiv.org/abs/1508.05796
  "No evidence for a signal is found"
- Searches for scalar leptoquarks in pp collisions at $\sqrt{s}$ = 8 TeV with the ATLAS detector
  http://arxiv.org/abs/1508.04735
  "No statistically significant excess above the Standard Model expectation is observed "
- Search for W' decaying to tau lepton and neutrino in proton-proton collisions at sqrt(s) = 8 TeV
  http://arxiv.org/abs/1508.04308
  "No excess is observed"
- Search for hidden-sector bosons in $B^0 \!\to K^{*0}?^+?^-$ decays
  http://arxiv.org/abs/1508.04094
  No significant signal is observed "
- Search for lepton-flavour-violating $H\to??$ decays of the Higgs boson with the ATLAS detector
  http://arxiv.org/abs/1508.03372
  " No statistically significant excess of data over the predicted background is observed."
- Constraints on non-Standard Model Higgs boson interactions in an effective field theory using differential cross sections measured in the $H \rightarrow ??$ decay channel at $\sqrt{s} = 8$ TeV with the ATLAS detector
  http://arxiv.org/abs/1508.02507
  "No significant deviations from the Standard Model are observed "
- Search for supersymmetry with a photon, a lepton, and missing transverse momentum in pp collisions at sqrt(s) = 8 TeV
  http://arxiv.org/abs/1508.01218
  "No excess of events is observed "
- Search for neutral MSSM Higgs bosons decaying to $?^{+} ?^{-}$ in pp collisions at $ \sqrt{s} =$ 7 and 8 TeV
  http://arxiv.org/abs/1508.01437
  "No statistically significant excess is observed "
- Search for Event Rate Modulation in XENON100 Electronic Recoil Data
  http://arxiv.org/pdf/1507.07748
  "no evidence was found"
- Exclusion of Leptophilic Dark Matter Models using XENON100 Electronic Recoil Data
  http://arxiv.org/pdf/1507.07747
  "no evidence for a signal above the low background_"

- Search for an additional, heavy Higgs boson in the $H\rightarrow ZZ$ decay channel at $\sqrt{s}$ = 8 TeV in pp collision data with the ATLAS detector
  http://arxiv.org/abs/1507.05930
  "No significant excess of events over the Standard Model prediction is found. "
- Summary of the searches for squarks and gluinos using $\sqrt{s}$ = 8 TeV pp collisions with the ATLAS experiment at the LHC
  http://arxiv.org/abs/1507.05525
  "no significant excess of events"
- Search for photonic signatures of gauge-mediated supersymmetry in 8 TeV pp collisions with the ATLAS detector
  http://arxiv.org/abs/1507.05493
  "No significant excess of events is observed"
- Search for supersymmetry with photons in pp collisions at sqrt(s) = 8 TeV
  http://arxiv.org/pdf/1507.02898
  "No evidence for supersymmetry production is found"
- Search for $Z_c(3900)^\pm\to??^\pm$
  http://arxiv.org/abs/1507.02068
  "No significant signal for the $Z_c(3900)^\pm$ is found"
- Search for exotic decays of a Higgs boson into undetectable particles and photons
  http://arxiv.org/pdf/1507.00359
  "The measurements for the selected events in data are consistent with the background only hypothesis"
- Search for long-lived heavy charged particles using a ring imaging Cherenkov technique at LHCb
  http://arxiv.org/abs/1506.09173
  "No evidence is found for the production of such long-lived states. "
- ATLAS Run 1 searches for direct pair production of third-generation squarks at the Large Hadron Collider
  http://arxiv.org/abs/1506.08616
  "no evidence of third-generation squarks is found"
- Search for neutral MSSM Higgs bosons decaying into a pair of bottom quarks
  http://arxiv.org/abs/1506.08329
  "No signal is observed."
- New Exclusion Limits for the Search of Scalar and Pseudoscalar Axion-Like Particles from "Light Shining Through a Wall"
  http://arxiv.org/abs/1506.08082
  "No regenerated photons have been detected "
- Search for weakly decaying $\overline{?\mathrm{n}}$ and $??$ exotic bound states in central Pb-Pb collisions at $\sqrt{s_{\rm NN}}$ = 2.76 TeV
  http://arxiv.org/abs/1506.07499
  "No evidence for these bound states is observed"
- Search for heavy Majorana neutrinos with the ATLAS detector in pp collisions at $\sqrt{s} = 8$ TeV
  http://arxiv.org/pdf/1506.06020.pdf
  "No significant excess of events is observed"
- Search for the associated production of the Higgs boson with a top quark pair in multilepton final states with the ATLAS detector
  http://arxiv.org/abs/1506.05988
  "No significant excess of events is observed"
- Result of the search for neutrinoless double-$?$ decay in ^{100}Mo with the NEMO-3 experiment
  http://arxiv.org/abs/1506.05825
  "no events are observed"

- Search for metastable heavy charged particles with large ionisation energy loss in pp collisions at $\sqrt{s}$ = 8 TeV using the ATLAS experiment
  http://arxiv.org/abs/1506.05332
  " No significant deviation from the Standard Model background expectation is observed"
- Search for resonant ttbar production in proton-proton collisions at sqrt(s)=8 TeV
  http://arxiv.org/abs/1506.03062
  "No significant excess of events relative to the expected yield from standard model processes is observed."
- Search for diphoton resonances in the mass range from 150 to 850 GeV in pp collisions at sqrt(s) = 8 TeV
  http://arxiv.org/abs/1506.02301
  " No evidence for new particle production is observed"
- Search for type-III Seesaw heavy leptons in pp collisions at $\sqrt{s}= 8$ TeV with the ATLAS Detector
  http://arxiv.org/abs/1506.01839
  "No evidence of heavy lepton pair-production is observed."
- Search for a massive resonance decaying into a Higgs boson and a W or Z boson in hadronic final states in proton-proton collisions at sqrt(s) = 8 TeV
  http://arxiv.org/abs/1506.01443
  " No significant signal is observed"
- Search for heavy lepton resonances decaying to a Z boson and a lepton in pp collisions at $\sqrt{s}=8$ TeV with the ATLAS detector
  http://arxiv.org/abs/1506.01291
  "No significant excess above Standard Model background predictions is observed"
- Search for Dark Matter in Events with Missing Transverse Momentum and a Higgs Boson Decaying to Two Photons in pp Collisions at $\sqrt{s}=8$ TeV with the ATLAS Detector
  http://arxiv.org/abs/1506.01081
  "The observed data are well described by the expected Standard Model backgrounds."
- A search for pair production of new light bosons decaying into muons
  http://arxiv.org/abs/1506.00424
  "No excess is observed"
- Search for Higgs boson pair production in the $b\bar{b} b\bar{b}$ final state from pp collisions at $\sqrt{s} = 8$ TeV with the ATLAS detector
  http://arxiv.org/abs/1506.00285
  "No evidence for resonant or non-resonant Higgs boson pair production is observed.
- A search for $t\bar{t}$ resonances using lepton-plus-jets events in proton-proton collisions at $\sqrt{s} = 8$ TeV with the ATLAS detector
  http://arxiv.org/abs/1505.07018
  "No evidence for a top quark pair resonance is found"
- Measurement of the differential cross section for top quark pair production in pp collisions at sqrt(s) = 8 TeV
  http://arxiv.org/abs/1505.04480
  "No significant deviations are observed relative to the standard model predictions."
- Search for production of vector-like quark pairs and of four top quarks in the lepton-plus-jets final state in pp collisions at $\sqrt{s}=8$ TeV with the ATLAS detector
  http://arxiv.org/abs/1505.04306
  "No significant excess of events above the Standard Model expectation is observed"
- DARK MATTER PRODUCED IN ASSOCIATION WITH TOP QUARK PAIR
  http://arxiv.org/pdf/1505.04100.pdf

" No excess of events in the SR is observed"

- CMS High mass WW and ZZ Higgs search with the complete LHC Run1 statistics
  http://arxiv.org/pdf/1505.03831.pdf
  "We do not observe a significant excess with respect to the expected SM background"
- Search for the $?_b \rightarrow ??^\prime$ and $?_b \rightarrow ??$ decays with the LHCb detector
  http://arxiv.org/abs/1505.03295
  "No significant signal is observed "
- Search for a high mass SM-like Higgs boson in the H to ZZ to llqq decay channel in CMS
  http://arxiv.org/abs/1505.03278
  No evidence of a signal is found "
- Low-mass dark matter search results from full exposure of PandaX-I experiment
  http://arxiv.org/abs/1505.00771
  "no significant excess event were found above the expected background"_
- Improved WIMP-search reach of the CDMS II germanium data
  http://arxiv.org/pdf/1504.05871.pdf
  "No events were observed in the extended version of the 5d-?2 analysis.""No other sources were found to be statistically significant."
- Search for high-mass diphoton resonances in pp collisions at $\sqrt{s}=8$ TeV with the ATLAS detector
  http://arxiv.org/pdf/1504.05511.pdf
  "No significant excess over the expected background is observed"
- Search for massive, long-lived particles using multitrack displaced vertices or displaced lepton pairs in pp collisions at $\sqrt{s}$ = 8 TeV with the ATLAS detector
  http://arxiv.org/abs/1504.05162
  "No events are observed in any of the signal regions"
- Search for a pseudoscalar boson decaying into a Z boson and the 125 GeV Higgs boson in llbb final states
  http://arxiv.org/abs/1504.04710
  "no evidence for signal"
- Search for invisible decays of the Higgs boson produced in association with a hadronically decaying vector boson in pp collisions at $\sqrt{s}$ = 8 TeV with the ATLAS detector
  http://arxiv.org/abs/1504.04324
  "No excess of candidates is observed in the data over the background expectation"
- Search for heavy long-lived multi-charged particles in pp collisions at $\sqrt{s}$ = 8 TeV using the ATLAS detector
  http://arxiv.org/abs/1504.04188
  "No signal candidate events are observed"
- Search for long-lived, weakly interacting particles that decay to displaced hadronic jets in proton-proton collisions at $\sqrt{s}=8$ TeV with the ATLAS detector
  http://arxiv.org/abs/1504.03634
  "No significant excess of events over the expected background is found"
- Search for the production of dark matter in association with top-quark pairs in the single-lepton final state in proton-proton collisions at sqrt(s) = 8 TeV
  http://arxiv.org/abs/1504.03198
  "No excess of events is found above the SM expectation"
- Search for Resonances Decaying to Top and Bottom Quarks with the CDF Experiment
  http://arxiv.org/abs/1504.01536
  "No significant excess above the standard model (SM) background prediction is observed."

- Search for the dark photon in $?^0$ decays
  http://arxiv.org/abs/1504.00607
  " No signal is observed"
- Search for New Phenomena in Dijet Angular Distributions in Proton-Proton Collisions at sv=8 TeV Measured with the ATLAS Detector
  http://cds.cern.ch/record/2005764
  "All angular distributions are consistent with the predictions of the Standard Model"
- Experimental Search for Hidden Photon CDM in the eV mass range with a Dish Antenna
  http://arxiv.org/abs/1504.00118
  "we found no evidence for the existence of HP CDM"
- Search for third-generation scalar leptoquarks in the t-tau channel in proton-proton collisions at 8 TeV
  http://arxiv.org/pdf/1503.09049.pdf
  " No statistically significant excess is observed over the SM background expectation
- Search for low-scale gravity signatures in multi-jet final states with the ATLAS detector at sv = 8 TeV
  http://cds.cern.ch/record/2004911
  "No excess of events beyond Standard Model expectations is observed"
- Search for a new resonance decaying to a W or Z boson and a Higgs boson in the $\ell \ell/ \ell ?/ ??+ b \bar{b}$ final states with the ATLAS Detector
  http://arxiv.org/abs/1503.08089
  "No significant deviation from the Standard Model background prediction is observed. "
- Searches for third generation squark production in fully hadronic final states in proton-proton collisions at sqrt(s)=8 TeV
  http://arxiv.org/abs/1503.08037
  "No excesses above the standard model expectations are seen"
- Search for ultralight scalar dark matter with atomic spectroscopy
  http://arxiv.org/abs/1503.06886
  "No signal consistent with a DM coupling is identified"
- LHC results and prospects: Beyond Standard Model
  http://arxiv.org/pdf/1404.7311.pdf
  "So far no hints of new physics beyond the SM have been found at the LHC."
- Limit on light gauge boson production in $e^+e^- \rightarrow ?^+ ?^- ?$ interactions with the KLOE experiment
  http://arxiv.org/pdf/1404.7772.pdf
  " We ?nd no evidence for a U Boson..."
- Searching for Dark Matter Annihilation in the Smith High-Velocity Cloud
  http://arxiv.org/abs/1405.1030
  "No significant gamma-ray excess is found coincident with the Smith Cloud"
- Searches for Weakly Interacting Supersymmetric Particles
  http://arxiv.org/abs/1405.2993
  "No significant deviations from standard model predictions have been observed."
- Search for top-squark pairs decaying into Higgs or Z bosons in pp collisions at sqrt(s) = 8 TeV
  http://arxiv.org/abs/1405.3886
  "No evidence for a significant excess of events over the standard model background prediction is observed"
- Search for supersymmetry with razor variables in pp collisions at sqrt(s)=7 TeV
  http://arxiv.org/pdf/1405.3961
  "no signi?cant excess over the background expectations has been observed."
- Search for high-mass dilepton resonances in pp collisions at sqrt(s) = 8 TeV with the ATLAS detector

http://arxiv.org/pdf/1405.4123
"The observed invariant mass spectrum is consistent with the Standard Model expectation."

- Search for a heavy Higgs boson in $H\rightarrow ZZ\rightarrow 2\ell2?$ channel in pp collisions with CMS detector at the LHC
http://arxiv.org/abs/1405.4158
" No significant excess is observed above the background expectation. "
- Search for microscopic black holes and string balls in final states with leptons and jets with the ATLAS detector at sqrt(s) = 8 TeV
http://arxiv.org/abs/1405.4254
"No excess of events beyond Standard Model expectations is observed. "
- Search for supersymmetry in events with four or more leptons in $\sqrt{s}$ = 8 TeV pp collisions with the ATLAS detector
http://arxiv.org/abs/1405.5086
"No significant deviations are observed in data from Standard Model predictions "
- Searches for electroweak production of charginos, neutralinos, and sleptons decaying to leptons and W, Z, and Higgs bosons in pp collisions at 8 TeV
http://arxiv.org/pdf/1405.7570.pdf
" No signi?cant evidence for a signal-like excess is observed."
- Search for jet extinction in the inclusive jet-pt spectrum at sqrt(s)=8 TeV
http://arxiv.org/abs/1405.7653
"No significant deficit of events is found at high transverse momentum. "
- Search for squarks and gluinos with the ATLAS detector in final states with jets and missing transverse momentum using $\sqrt{s}=8$ TeV proton--proton collision data
http://arxiv.org/abs/1405.7875
"No significant excess above the Standard Model expectation is observed. "
- Search for Bosonic super-WIMP Dark Matter with the XMASS-I Detector
http://arxiv.org/abs/1406.0502
"no signal was observed"
- Search for direct pair production of the top squark in all-hadronic final states in proton-proton collisions at $\sqrt{s}=8$ TeV with the ATLAS detector
http://arxiv.org/abs/1406.1122
"No significant excess over the Standard Model background prediction is observed"
- Search for a dark photon in e+e- collisions at BABAR
http://arxiv.org/abs/1406.2980
" We do not observe a significant signal"
- Search for Scalar Diphoton Resonances in the Mass Range $65-600$ GeV with the ATLAS Detector in pp Collision Data at $\sqrt{s}$ = 8 TeV
http://arxiv.org/abs/1407.6583
No significant evidence for an additional signal is observed.
- Search for new particles in events with one lepton and missing transverse momentum in pp collisions at $\sqrt{s}$ = 8 TeV with the ATLAS detector
http://arxiv.org/abs/1407.7494
"No significant excess beyond Standard Model expectations is observed. "
- Search for new resonances in $W?$ and $Z?$ Final States in pp Collisions at $\sqrt{s}=8$ TeV with the ATLAS Detector
http://arxiv.org/abs/1407.8150
"No deviations from the Standard Model expectations are found,"

- Search for pair production of third-generation scalar leptoquarks and top squarks in proton-proton collisions at sqrt(s) = 8 TeV
  http://arxiv.org/pdf/1408.0806.pdf
  " No excesses above the standard model background prediction are observed"
- Search for new physics using events with two same-sign isolated leptons in the final state in pp collisions at 8 TeV
  http://arxiv.org/abs/1408.1353
  "No excess above the standard model background expectation is observed"
- Search for physics beyond the standard model in final states with a lepton and missing transverse energy in proton-proton collisions at sqrt(s) = 8 TeV
  http://arxiv.org/abs/1408.2745
  "No significant deviation of the transverse mass distribution of the charged lepton-neutrino system from the standard model prediction is found. "
- Search for neutral MSSM Higgs bosons decaying to a pair of tau leptons in pp collisions
  http://arxiv.org/abs/1408.3316
  "No excess is observed"
- Beyond Standard Model Higgs boson physics with the ATLAS experiment at the LHC
  http://arxiv.org/abs/1408.3521
  "No significant deviations from the background expectations are found "
- Search for dark matter, extra dimensions, and unparticles in monojet events in proton-proton collisions at sqrt(s) = 8 TeV
  http://arxiv.org/abs/1408.3583
  " The number of observed events is found to be consistent with the standard model prediction."
- First dark matter search results from the PandaX-I experiment
  http://arxiv.org/abs/1408.5114
  " no DM particle candidate event was found. "
- Low mass New Physics search for a CP-odd Higgs boson A^0 deacying to $s\bar s$ or gluon gluon at BaBar
  http://arxiv.org/abs/1405.4640
  "No significant signal has been found"
- Inclusive SUSY searches at the LHC
  http://arxiv.org/abs/1405.4730
  "Current searches show that data are consistent with the SM. "
- Search for neutrino emission from relic dark matter in the Sun with the Baikal NT200 detector
  http://arxiv.org/abs/1405.3551
  "From the absence of any excess of events from the direction of the Sun over the expected background, we derive 90% upper limits on the fluxes of muons and muon neutrinos fromSun, as well as on the elastic cross sections of dark matter scattering on protons."
- Search for the direct production of charginos, neutralinos and staus in final states with at least two hadronically decaying taus and missing transverse momentum in pp collisions at $\sqrt{s}$ = 8 TeV with the ATLAS detector
  http://arxiv.org/abs/1407.0350
  "No significant excess is observed with respect to the predictions from Standard Model processes. "
- Search for top squark pair production in final states with one isolated lepton, jets, and missing transverse momentum in $\sqrt{s}=$ 8 TeV pp collisions with the ATLAS detector
  http://arxiv.org/abs/1407.0583

" No significant excess over the Standard Model prediction is observed."

- Search for strong production of supersymmetric particles in final states with missing transverse momentum and at least three b-jets at $\sqrt{s} =$ 8 TeV proton-proton collisions with the ATLAS detector
  http://arxiv.org/abs/1407.0600"
  No excess is observed with respect to the Standard Model predictions."
- Search for supersymmetry in events with large missing transverse momentum, jets, and at least one tau lepton in 20 fb^{-1} of $\sqrt{s}$=8 TeV proton-proton collision data with the ATLAS detector
  http://arxiv.org/abs/1407.0603
  "No excess above the Standard Model background expectation is observed in the various signal regions "
- Search for pair-produced third-generation squarks decaying via charm quarks or in compressed supersymmetric scenarios in pp collisions at $\sqrt{s}=8~$TeV with the ATLAS detector
  http://arxiv.org/abs/1407.0608
  " No excess above the Standard Model background expectation is observed."
- Search for new phenomena in the dijet mass distribution using pp collision data at $\sqrt{s}=8$ TeV with the ATLAS detector
  http://arxiv.org/pdf/1407.1376.pdf
  "No signi?cant excess is observed above the background."
- Search for contact interactions and large extra dimensions in the dilepton channel using proton-proton collisions at $\sqrt{s}$ = 8 TeV with the ATLAS detector
  http://arxiv.org/abs/1407.2410
  " No significant deviations from the Standard Model expectation are observed."
- Search for the lepton flavor violating decay $Z \rightarrow e ?$ in pp collisions at $\sqrt{s}$ = 8 TeV with the ATLAS detector
  http://arxiv.org/abs/1408.5774
  "There is no evidence of an enhancement at the Z boson mass"
- Inclusive searches for squarks and gluinos with the ATLAS detector
  http://arxiv.org/pdf/1408.5776.pdf
  "None of the analyses has observed a significant deviation from SM predictions, leading to constraints on many SUSY models."
- Search for squarks and gluinos with the ATLAS detector in final states with jets and missing transverse momentum using 20.3 fb^{-1} of $\sqrt{s}$ = 8 TeV proton-proton collision data
  http://arxiv.org/pdf/1408.5857.pdf
  "There is no significant excess observed""Good agreement is seen between the numbers of events observed in the data and the numbers of events expected from SM processes."
- Search for long-lived particles with the ATLAS detector
  http://arxiv.org/pdf/1408.6360.pdf
  "no evidence of signal is found to date"
- Search for Supersymmetry in the 4-lepton final state with the ATLAS detector
  http://arxiv.org/pdf/1408.6832.pdf
  "no excess over the standard model is observed."
- Proceeding for LHCP2014 Poster: Search for direct pair production of the top hadronic final states in proton-proton collisions at $\sqrt{s}=8$ TeV with the ATLAS detector
  http://arxiv.org/abs/1408.6975
  "No significant excess over the Standard Model background prediction is observed, "

- Search for long-lived neutral particles decaying into lepton jets in proton--proton collisions at $\sqrt{s}$ = 8 TeV with the ATLAS detector
  http://arxiv.org/pdf/1409.0746.pdf
  " The reason is that the expected cross section of that particle was prohibitively small for the comparatively low luminosities provided by the facilities available at the time.
- Search for "Displaced Supersymmetry" in events with an electron and a muon with large impact parameters
  http://arxiv.org/pdf/1409.4789v1.pdf
  "No excess is observed above background"
- Search for pair and single production of new heavy quarks that decay to a Z boson and a third-generation quark in pp collisions at $\sqrt{s}=8$ TeV with the ATLAS detector
  http://arxiv.org/abs/1409.5500
  "No significant excess of events above the Standard Model expectation is observed,"
- Search for non-pointing and delayed photons in the diphoton and missing transverse momentum final state in 8 TeV pp collisions at the LHC using the ATLAS detector
  http://arxiv.org/abs/1409.5542
  " No excess is observed over the Standard Model predictions for background."
- Search for neutral Higgs bosons of the minimal supersymmetric standard model in pp collisions at $\sqrt{s}$ = 8 TeV with the ATLAS detector
  http://arxiv.org/abs/1409.6064
  "No significant excess over the expected background is observed"
- Search for resonant diboson production in the $\ell\ell q\bar{q}$ final state in pp collisions at $\sqrt{s} = 8$ TeV with the ATLAS detector
  http://arxiv.org/abs/1409.6190
  "No significant excess of data events over the Standard Model expectation is observ
- Search for Majoron-emitting modes of double-beta decay of ^{136}Xe with EXO-200
  http://arxiv.org/pdf/1409.6829.pdf
  "No statistically significant evidence for this process is found."
- Search for a Light Sterile Neutrino at Daya Bay
  http://journals.aps.org/prl/abstract/10.1103/PhysRevLett.113.141802
  "The relative spectral distortion due to the disappearance of electron antineutrinos was found to be consistent with that of the three-flavor oscillation model. "
- "Sterile neutrinos remain elusive"
  http://physics.aps.org/synopsis-for/10.1103/PhysRevLett.113.141802
- First Results from the DarkSide-50 Dark Matter Experiment at Laboratori Nazionali del Gran Sasso
  http://arxiv.org/abs/1410.0653
  "We report here the null results of a dark matter search for a (1422+-67) kg d exposure with an atmospheric argon fill."
- Search for a dileptonic edge with CMS
  http://arxiv.org/abs/1410.1730
  " We do not observe a statistically significant signal and the results are consistent with the background-only hypothesis."
- Limits on Sterile Neutrino Mixing using Atmospheric Neutrinos in Super-Kamiokande
  http://arxiv.org/abs/1410.2008
  " No evidence of sterile oscillations is seen "
- Latest Results of the OSQAR Photon Regeneration Experiment for Axion-Like Particle Search
  http://arxiv.org/abs/1410.2566
  " No excess of events has been observed,"

- Search for dark matter in events with heavy quarks and missing transverse momentum ipp collisions with the ATLAS detector
  http://arxiv.org/pdf/1410.4031.pdf
  "no significant excess is observed"
- New PVLAS model independent limit for the axion coupling to $??$ for axion masses above 1meV
  http://arxiv.org/abs/1410.4081
  "No ellipticity signal is present"
- Search for $W' \to t\bar{b}$ in the lepton plus jets final state in proton-proton collisions at a centre-of-mass energy of $\sqrt{s}$ = 8 TeV with the ATLAS detector
  http://arxiv.org/abs/1410.4103
  "No significant deviation from the Standard Model expectation is observed "
- Test of Lorentz Invariance with Atmospheric Neutrinos
  http://arxiv.org/abs/1410.4267
  " No evidence of Lorentz violation was observed"
- Search for the X_b and other hidden-beauty states in the $?^+ ?^- ?(1 \rm S)$ channel at ATLAS
  http://arxiv.org/abs/1410.4409
  "No evidence for new narrow states is found,"
- Latest results of MEG and status of MEG-II
  http://arxiv.org/pdf/1410.4705.pdf
  " No significant signal is observed"
- Search for invisible particles produced in association with single-top-quarks in proton-proton collisions at $\sqrt{s}$ = 8 TeV with the ATLAS detector
  http://arxiv.org/abs/1410.5404
  " No deviation from the Standard Model prediction is observed"
- Search for new phenomena in monophoton final states in proton-proton collisions at sqrt(s) = 8 TeV
  http://arxiv.org/abs/1410.8812
  " No deviation from the standard model predictions is observed for these final states."
- 3rd generation SUSY searches at CMS
  http://arxiv.org/pdf/1411.0141.pdf
  "No excess in data with respect to the SM expectation has been observed"
- Searches for Exotic Phenomena at ATLAS and CMS
  http://arxiv.org/pdf/1411.0204.pdf
  "No evidence of new exotic physics is found"
- SUSY searches in CMS
  http://arxiv.org/pdf/1411.0250.pdf
  "No excess in data with respect to the SM expectation has been observed "
- Search for exotics at $BABAR
  http://arxiv.org/pdf/1411.0571.pdf
  "no evidence for the f0(1500) state has been found in charmonium decays." "No evidence for interferences between signal and background is found, so a sum of inchoerent resonances is used for fitting the sidebands." "No evidence of signal is found for B0 > J/??"
- Search for new phenomena in events with a photon and missing transverse momentum in pp collisions at $\sqrt{s}=8$ TeV with the ATLAS detector
  http://arxiv.org/abs/1411.1559
  "The observed data are well described by the expected Standard Model backgrounds. "
- Search for new $?^0$-like particles produced in association with a $?$-lepton pair
  http://arxiv.org/abs/1411.1806
  "No significant signal is observed"

- SUSY searches at CMS
  http://arxiv.org/pdf/1411.1886.pdf
  "No significant excess has been observed over the Standard Model backgrounds"
- Search for quark contact interactions and extra spatial dimensions using dijet angular distributions in proton-proton collisions at sqrt(s) = 8 TeV
  http://arxiv.org/pdf/1411.2646.pdf
  "No significant deviation from the standard model predictions is observed."
- Search for new phenomena in events with three or more charged leptons in pp collisions at $\sqrt{s}=8$ TeV with the ATLAS detector
  http://arxiv.org/abs/1411.2921
  "No significant deviations from Standard Model predictions are observed."
- Experimental searches for tHq
  http://arxiv.org/pdf/1411.2988.pdf
  " no significant excess between data and simulation is found,"
- Exotics Searches at ATLAS
  http://arxiv.org/pdf/1411.4292.pdf
  "No significant excess over the Standard Model expectation is observed"
- Search for disappearing tracks in proton-proton collisions at sqrt(s) = 8 TeV
  http://arxiv.org/pdf/1411.6006.pdf
  "Thus, no significant excess above the estimated background"
- Search for long-lived neutral particles decaying to quark-antiquark pairs in proton-proton collisions at sqrt(s) = 8 TeV
  http://arxiv.org/abs/1411.6530
  " No significant excess is observed above standard model expectations. "
- Searches for heavy long-lived charged particles with the ATLAS detector in proton-proton collisions at $\sqrt{s}$ = 8 TeV
  http://arxiv.org/abs/1411.6795
  "No excess is observed above the estimated background "
- Search for long-lived particles that decay into final states containing two electrons or two muons in proton-proton collisions at sqrt(s) = 8 TeV
  http://arxiv.org/abs/1411.6977
  " No significant excess is observed above standard model expectations."
- Search for stealth supersymmetry in events with jets, either photons or leptons, and low missing transverse momentum in pp collisions at 8 TeV
  http://arxiv.org/abs/1411.7255
  "No excess is observed with respect to the standard model expectation, "
- Search for anomalous production of prompt same-sign lepton pairs and pair-produced doubly charged Higgs bosons with $\sqrt{s} = 8$ TeV pp collisions using the ATLAS detector
  http://arxiv.org/abs/1412.0237
  "No excess of events above the expected level of Standard Model background is found."
- SUSY searches with the ATLAS detector
  http://arxiv.org/pdf/1412.2784.pdf
  no excess is seen over the SM expected!
- Search for long-lived particles decaying to jet pairs
  http://arxiv.org/abs/1412.3021
  " No excess above the background is observed "
- Searches for supersymmetry based on events with b jets and four W bosons in pp collisions at 8 TeV

http://arxiv.org/pdf/1412.4109.pdf
"The CMS and ATLAS Collaborations have performed many searches for physics beyond the SM. Thus far, no significant evidence for new physics has been obtained."

- The LUX direct dark matter search experiment
  http://arxiv.org/abs/1412.4660
  " The LUX data are in strong disagreement with low-mass WIMP signal interpretations of the results from several recent direct detection experiments."
- Measurement of Spin Correlation in Top-Antitop Quark Events and Search for Top Squark Pair Production in pp Collisions at $\sqrt{s}=8$ TeV Using the ATLAS Detector
  http://arxiv.org/abs/1412.4742
  " Top squarks with masses between the top quark mass and 191 GeV are excluded at the 95% confidence level."
- Search for physics beyond the standard model in dilepton mass spectra in proton-proton collisions at sqrt(s) = 8 TeV
  http://arxiv.org/pdf/1412.6302.pdf
  " No evidence for non-standard-model physics is observed"
- Experimental results on SUSY searches with top
  http://arxiv.org/abs/1412.7694
  " No excess beyond Standard Model expectations is observed"
- Search for pair-produced resonances decaying to jet pairs in proton-proton collisions at sqrt(s)= 8 TeV
  http://arxiv.org/pdf/1412.7706
  "No significant deviation is found between the selected events and the expected standard model multijet background"
- Search for the dark photon in $?^0$ decays by the NA48/2 experiment at CERN
  http://arxiv.org/abs/1412.8053
  "No signal is observed"
- Search for Scalar-Charm Pair Production in pp Collisions at $\sqrt{s}=8$ TeV with the ATLAS Detector
  http://arxiv.org/pdf/1501.01325.pdf
  "no significant excesses are observed"
- Experimental results on top exotic (non-SUSY) from the LHC
  http://arxiv.org/abs/1501.02141
  "No significant excesses beyond the standard model are observed,"
- New limit on the mass of 9.4-keV solar axions emitted in an M1 transition in ^{83}Kr nuclei
  http://arxiv.org/pdf/1501.02944.pdf
  " There is no visible peak... "
- Search for Higgs and Z Boson Decays to $J/??$ and $?(nS)?$ with the ATLAS Detector
  http://arxiv.org/abs/1501.03276
  "No significant excess of events is observed above expected backgrounds"
- Search for squarks and gluinos in events with isolated leptons, jets and missing transverse momentum at $\sqrt{s}=8$ TeV with the ATLAS detector
  http://arxiv.org/abs/1501.03555
  " No significant excess above the Standard Model expectation is observed."
- Search for pair-produced long-lived neutral particles decaying in the ATLAS hadronic calorimeter in pp collisions at $\sqrt{s}$ = 8 TeV
  http://arxiv.org/pdf/1501.04020.pdf
  "No significant excess of events is observed. "
- Search for resonances and quantum black holes using dijet mass spectra in proton-proton collisions at sqrt(s)=8 TeV
  http://arxiv.org/pdf/1501.04198.pdf

" No evidence for new particleproduction is found."

- Search for the U-boson in the process $e^ +e^- \to ?^+ ?^- ?, \,\, U \to ?^+?^-$ with the KLOE detector
  http://arxiv.org/pdf/1501.04424.pdf
  " We found no U vector boson signal"
- Search for heavy Majorana neutrinos in mu+/- mu+/- + jets events in proton-proton collisions at sqrt(s) = 8 TeV
  http://arxiv.org/abs/1501.05566
  "No excess of events is observed"
- Search for dark Higgsstrahlung in e+ e- -> mu+ mu- and missing energy events with the KLOE experiment
  http://arxiv.org/abs/1501.06795
  " We found no evidence of the process"
- Search for direct pair production of a chargino and a neutralino decaying to the 125 GeV Higgs boson in $\sqrt{s}$ = 8 TeV pp collisions with the ATLAS detector
  http://arxiv.org/pdf/1501.07110.pdf
  "No significant excess is observed over the SM background expectations in any channel".
- Search for the dark photon and the dark Higgs boson at Belle
  http://arxiv.org/abs/1502.00084
  "we observe no significant signal."
- Search for supersymmetry using razor variables in events with b-tagged jets in pp collisions at sqrt(s)=8 TeV
  http://arxiv.org/pdf/1502.00300.pdf
  "No significant excess is observed with respect to the standard model background expectations"
- Search for new phenomena in final states with an energetic jet and large missing transverse momentum in pp collisions at $\sqrt{s}=8$ TeV with the ATLAS detector
  http://arxiv.org/pdf/1502.01518.pdf
  ". The measurements are in agreement with the SM expectations."
- Constraints on the pMSSM, AMSB model and on other models from the search for long-lived charged particles in proton-proton collisions at sqrt(s) = 8 TeV
  http://arxiv.org/pdf/1502.02522.pdf
  "In the context of the AMSB model, charginoswith lifetimes & 100 ns (3 ns) and masses up to about 800 GeV (100 GeV) are excluded at 95% confidence level. The most stringent limits to date are set on the long-lived sector of the pMSSM sub-space that covers SUSY particle masses up to about 3 TeV. In this sub-space, 95.9% (100%) of the points with a chargino lifetime ? ? 10 ns (1000 ns) are excluded"
- Search for Long-Lived Particles in e^+e^- Collision
  http://arxiv.org/abs/1502.02580
  "we do not observe a significant signal,"
- Searches for supersymmetry using the MT2 variable in hadronic events produced in pp collisions at 8 TeV
  http://arxiv.org/abs/1502.04358
  "No significant excess over the expected number of background events is observed"
- Dark Forces at DA$?$NE
  http://arxiv.org/pdf/1502.05517.pdf
  "No signal signature has been observed"
- Search for massive supersymmetric particles decaying to many jets using the ATLAS detector in pp collisions at $\sqrt{s} = 8$ TeV
  http://arxiv.org/abs/1502.05686
  "No significant deviation is observed from the expected Standard Model backgrounds "

- Search for a light Higgs resonance in radiative decays of the Y(1S) with a charm tag
  http://arxiv.org/abs/1502.06019
  "No significant signal is observed."
- Search for physics beyond the standard model in events with two leptons, jets, and missing transverse momentum in pp collisions at sqrt(s) = 8 TeV
  http://arxiv.org/pdf/1502.06031.pdf
  "We do not observe evidence for a statistically significant signal"
- A search for high-mass resonances decaying to $?^{+}?^{-}$ in pp collisions at $\sqrt{s}=8$ TeV with the ATLAS detector
  http://arxiv.org/abs/1502.07177
  "No statistically significant excess above the Standard Model expectation is observed"
- Limits on muon-neutrino to tau-neutrino oscillations induced by a sterile neutrino state obtained by OPERA at the CNGS beam
  http://arxiv.org/pdf/1503.01876.pdf
  " The OPERA experiment extends the exclusion limits"
- Search for vector-like T quarks decaying to top quarks and Higgs bosons in the all-hadronic channel using jet substructure
  http://arxiv.org/pdf/1503.01952.pdf
  "No signal-like excess is observed in data."
- Search for Gamma-Ray Emission from DES Dwarf Spheroidal Galaxy Candidates with Fermi-LAT Data
  http://arxiv.org/abs/1503.02632
  "We found no significant excesses of gamma-ray emission."
- Searching for Dark Matter Annihilation from Milky Way Dwarf Spheroidal Galaxies with Six Years of Fermi-LAT Data
  http://arxiv.org/abs/1503.02641
  "None of the dSphs are significantly detected in gamma rays
- Direct Searches for New Physics Particles at BABAR
  http://arxiv.org/pdf/1503.02860
  "We see no dark photons" "We observe no long-lived particle" ...
- Search for supersymmetry in events containing a same-flavour opposite-sign dilepton pair, jets, and large missing transverse momentum in $\sqrt{s}=8$ TeV pp collisions with the ATLAS detector
  http://arxiv.org/pdf/1503.03290.pdf
  "No evidence for an excess is observed"
- Search for resonant pair production of Higgs bosons decaying to two bottom quark-antiquark pairs in proton-proton collisions at 8 TeV
  http://arxiv.org/abs/1503.04114
  "No evidence for a signal is observed." "Kaluza-Klein graviton with mass from 380 to 830 GeV are excluded at a 95% confidence level."
- Search for production of WW/WZ resonances decaying to a lepton, neutrino and jets in pp collisions at $\sqrt{s}$ = 8 TeV with the ATLAS detector
  http://arxiv.org/abs/1503.04677
  "No evidence for resonant diboson production is observed" "for the spin-2 Randall-Sundrum bulk graviton G^* with coupling constant of 1.0 and the extended gauge model W' boson respectively"
- Search for a Charged Higgs Boson Produced in the Vector-boson Fusion Mode with Decay $H^\pm \to W^\pm Z$ using pp Collisions at $\sqrt{s}=8$ TeV with the ATLAS Experiment ATLAS Collaboration
  http://arxiv.org/pdf/1503.04430.pdf

"No evidence for the production of an $H^\pm$ boson is observed."

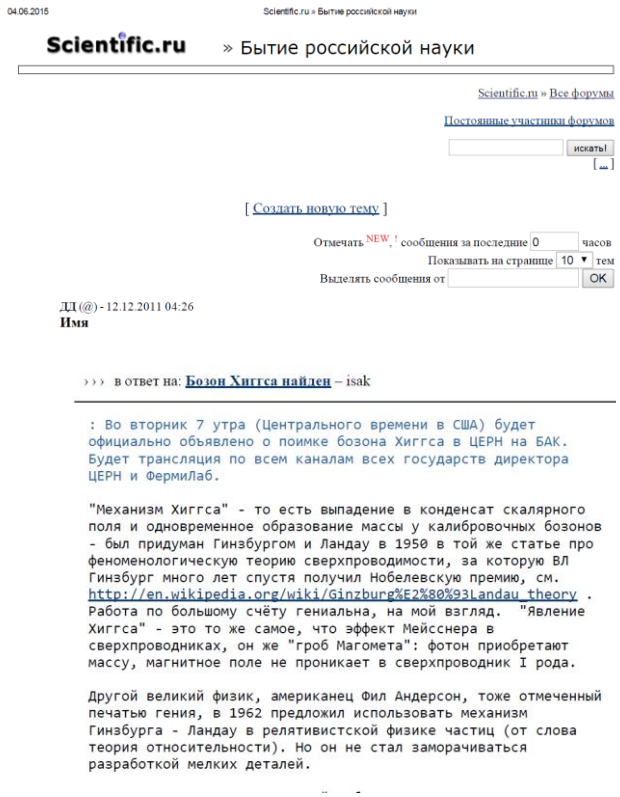
- Search for neutrinos from annihilation of captured low-mass dark matter particles in the Sun by Super-Kamiokande http://arxiv.org/abs/1503.04858
  "We found no significant excess over expected atmospheric-neutrino background "

3. Opening and closing of the Higgs.

By December 2011, it became clear that there is nothing substantial - neither of a supersymmetry, or black holes, or a dark energy, etc., nothing.

Here's an eyewitness account of the time [1] :

Eyewitness: Dmitri Igorevich Diakonov 12.12.2011 04:52



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Имя

››› в ответ на: **Бозон Хиггса найден** – isak

: Во вторник 7 утра (Центрального времени в США) будет официально объявлено о поимке бозона Хиггса в ЦЕРН на БАК. Будет трансляция по всем каналам всех государств директора ЦЕРН и ФермиЛаб.

"Механизм Хиггса" - то есть выпадение в конденсат скалярного поля и одновременное образование массы у калибровочных бозонов - был придуман Гинзбургом и Ландау в 1950 в той же статье про феноменологическую теорию сверхпроводимости, за которую ВЛ Гинзбург много лет спустя получил Нобелевскую премию, см. http://en.wikipedia.org/wiki/Ginzburg%E2%80%93Landau_theory . Работа по большому счёту гениальна, на мой взгляд. "Явление Хиггса" - это то же самое, что эффект Мейсснера в сверхпроводниках, он же "гроб Магомета": фотон приобретают массу, магнитное поле не проникает в сверхпроводник I рода.

Другой великий физик, американец Фил Андерсон, тоже отмеченный печатью гения, в 1962 предложил использовать механизм Гинзбурга - Ландау в релятивистской физике частиц (от слова теория относительности). Но он не стал заморачиваться разработкой мелких деталей.

Современная версия, в которой добавлена релятивистская инвариантность и "неабелевы" поля, т.е. не обязательно фотон - в сущности пустяковое усовершенствование - была предложена одновременно и независимо в работах трёх групп авторов в 1964: 1) Robert Brout и Francois Englert, 2) Peter Higgs, 3) Gerald Guralnik, C.R. Hagen, и Tom Kibble, см. http://en.wikipedia.org/wiki/Higgs_mechanism. Из них все, кроме собственно Питера Хиггса, известны многими другими полезными вкладами в науку; Хиггс же не известен более ничем. Впрочем, он лично ведёт себя всегда очень скромно, понимая, что он не выделен ничем, кроме короткой фамилии.

"Механизм Хиггса" примитивен как веник, и я был бы сильно удивлён, если Б-г пошёл на его реализацию, потому что Ей пришлось бы тогда заметать следы в других местах. Поэтому я скорее думаю, что "бозон Хиггса" на самом деле некое сильно-взаимодействующее составное образование, с массой больше, чем

там, где его ищут, и к тому же сильно нестабильное, так что его ширина полураспада порядка массы. Мы с молодым (тогда) парнишкой Greg Carter'ом показали, как это бывает, правда, чуть в другом контексте: http://arxiv.org/abs/hep-ph/0001318 .

Короче, я бы поставил $100 на то, что бозон Хиггса сейчас не найдут, если бы Хоукинг уже не сделал это.

Возможно, в ближайший вторник или когда в ЦЕРНе под звуки фанфар объявят о поимке Бозона на уровне 2.5 - 3 сигма (кто понимает), и это не будет, к сожалению, означать ничего. "Мой" пентакварк восемь лабораторий открывали на уровне 3-4 сигма, а потом другие "закрыли". Правда, сейчас опять открыли на уровне 5.9 стандартных отклонений, и то мало кто верит.

Я недавно был в ЦЕРНе и наблюдал там не очень здоровую атмосферу. Представьте тысячи физиков и инженеров, которые живут под постоянным прессингом "найти Хиггса". БАК - совершенно потрясающая, уникальная установка, где каждые 2 недели можно делать замечательные открытия, но они все "ищут Хиггса", выкидывая 99 и более процентов данных, которые по текущим представлениям этому не способствуют. Это происходит впервые в истории - обычно физики записывают на диски или на

ленту полностью все события - мало ли что впоследствии пригодится, но тут информации так много, что никакие накопители не способны её сохранить. Поэтому 99% данных просто не обрабатывают, а выбрасывают. Напоминает мне, как Шлиман в азарте срыл и бросил в отвал Трою, пока не докопался до неолита.

В этой атмосфере им позарез нужно большое открытие, и они его сделают! У ЦЕРНа как института не очень хорошая репутация: совсем недавно они громогласно, с телевидением и прессой, объявляли об открытии так наз. кварк-глюонной плазмы, которая на поверку оказалась её противоположностью - самой сильно-взаимодействующей системой, которая известна в природе.

В общем, я безусловно желаю своим коллегам, среди которых немало друзей, удачи на охоте, но надо быть готовым к тому, что во вторник ничего особенного кроме PR action не произойдёт.

отредактировано 12.12.2011 04:52

"Higgs mechanism" - that is moisture condensation scalar field and the simultaneous formation of the mass of the gauge bosons - Was coined by Ginzburg and Landau in 1950 in the same article about phenomenological theory of superconductivity, for which the overhead line Ginsburg, many years later won the Nobel Prize see. http://en.wikipedia.org/wiki/Ginzburg%E2%80%93Land_theory. Jobs is large brilliant, in my opinion. "The phenomenon of the Higgs" - it's the same thing as the

Meissner effect in superconductors, also known as "coffin of Mohammed": the photon acquire mass, the magnetic field does not penetrate into type I superconductor.

Another great physicist, American Phil Anderson, also marked with the stamp of genius, in 1962 proposed use the mechanism of Ginzburg – Landau for the relativistic particle physics (from the word theory of relativity). But he did not bother developing small parts.

The modern version, which adds the relativistic invariance and "non-Abelian" field, ie, not necessarily a photon - a paltry improvement in essence - was proposed simultaneously and independently in the works of the three groups of authors in 1964: 1) Robert Brout and Francois Englert, 2) Peter Higgs, 3) Gerald Guralnik, CR Hagen, and Tom Kibble, see.
http://en.wikipedia.org/wiki/Higgs_mechanism.

Of these, all but actually Peter Higgs, known by many other useful contribution to science; Higgs did not know anything more. However, he personally always behaves very modestly, knowing that it is not selected anything other than short names.

"Higgs mechanism" primitive like a broom, and I would be greatly surprised if God went to implement it, because she would have had to cover their tracks elsewhere.

So I rather think that the "Higgs boson" is actually a kind of strongly interacting composite object with a mass greater than where looking for him, and also strongly unstable, so that the width of the order of half-life mass. We with young (then) kid Greg Carter showed how it is, though, just in a different context:
http://arxiv.org/abs/hep-ph/0001318.

In short, I would bet $ 100 that the Higgs boson is not found, if Hawking has not done it.

Maybe next Tuesday or when CERN fanfare announced the capture Higgs at 2.5 - 3 sigma (who knows), and it will not, unfortunately, mean nothing. "My" pentaquark eight laboratories opened at 3-4 sigma, and then the other "closed". However, it was again opened at the level of 5.9 standard deviations, and that few believe.

I was recently at CERN and observed there is not very healthy atmosphere. Imagine thousands of physicists and engineers, who are living under constant pressure "to find the Higgs." LHC - absolutely amazing, unique machine, where every two weeks can make wonderful discoveries, but they are "looking for the Higgs," throwing out 99 percent or more of the data that current notions that do not contribute. This is the first time in history - the physics is usually written to disk or tape completely all the events - you never know what will come in handy later, but there is so much information that no drives are not able to save her. Therefore, 99% of the data is simply not processed and discarded. It reminds me of how Schliemann, in the heat, thrown into dump Troy until dug up the Neolithic.

In this atmosphere, they desperately need a great discovery, and they will do it! At CERN as an institution is not a very good reputation: recently they vociferously, with television and the press, announced the opening of so-called. Quark--gluon plasma, which turned out to be its opposite - the most strongly-interacting system, which is known in nature.

In general, I certainly wish my colleagues, many of whom are friends, good luck in hunting, but we must be prepared for the fact that on Tuesday, nothing special except the PR action will not happen."

And they did this "great discovery": On the one hand, they have spent a lot of money and a lot of work to search for the Higgs. On the other hand, they do not have anything but only single new particle. And they announced that particle as the "Higgs boson" [2],[3].

Naturally, the scientific community has embraced the euphoria that has not subsided yet.

But stop: it's the picture from [4],[5]:

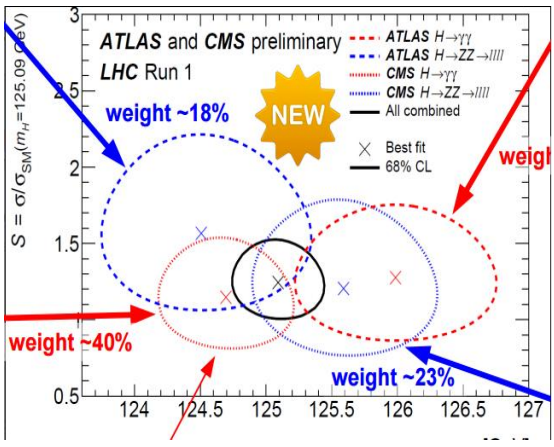

Fig 1 ATLAS+CMS Higgs combination

This picture for ATLAS only:

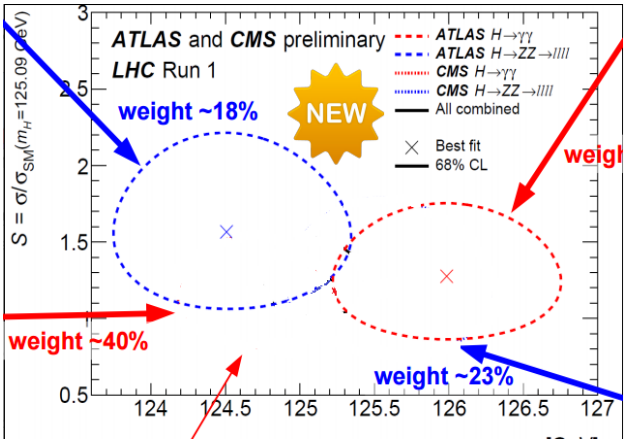

Fig. 2 ATLAS data

This is a picture for the single-particle?

No, any normal person sees here two particles. One has mass 124.5 GeV and the other has mass 126 GeV.

The picture for CMS only:

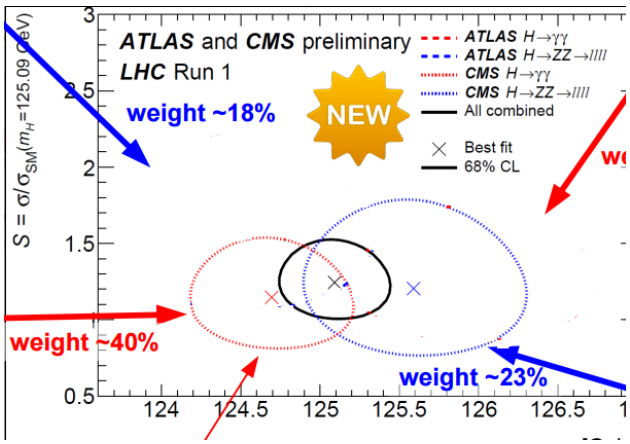

Fig. 3 CMS data

Fig. 3 gives other particles.

Consequently, between 124.5 and 126 lot of complex particles are placed, but not a single elementary particle.

Hence, it's not the higgs.

4. Conclusion

In 2006 - 2014 the logic analysis of these subjects described in [6],[7],[8],[9] has shown that all physical events are interpreted by well-known particles (leptons, quarks, and gauge bosons). A mass of a particle turn out a parameter of a probability density of event of this particle . Consequently, the Higgs is not needed.

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