LHC 2016 Sees 3 Higgs Mass States

Frank Dodd (Tony) Smith, Jr. - viXra 1610.0318

Abstract

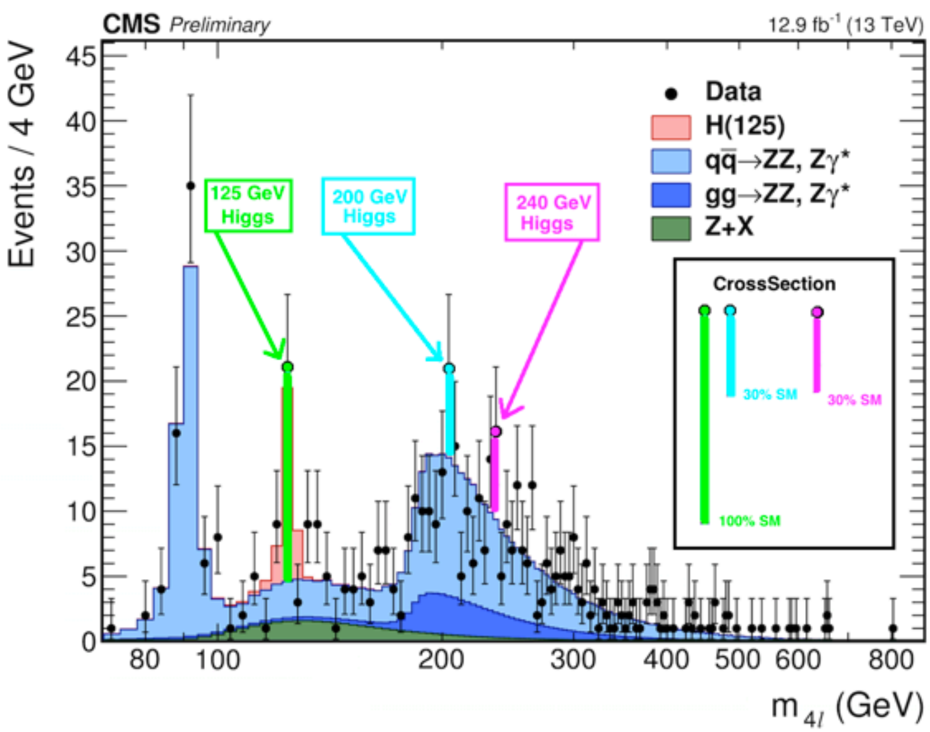
The first 13 /fb or so of the 2016 p-p LHC run indicates 3 Higgs Mass States: 125, 200, and 240 GeV. If confirmed by all 40 /fb of 2016 data, 3 Tquark Mass States 130, 174, and 220 GeV of a composite Higgs-Tquark system would also be supported as would be an unconventional analysis of Fermilab Tquark data.

26 October 2016 at 9:45pm lhcportal.com said: "... Re: 2016 operation ... last run with proton-proton collisions was dumped half an hour ago.

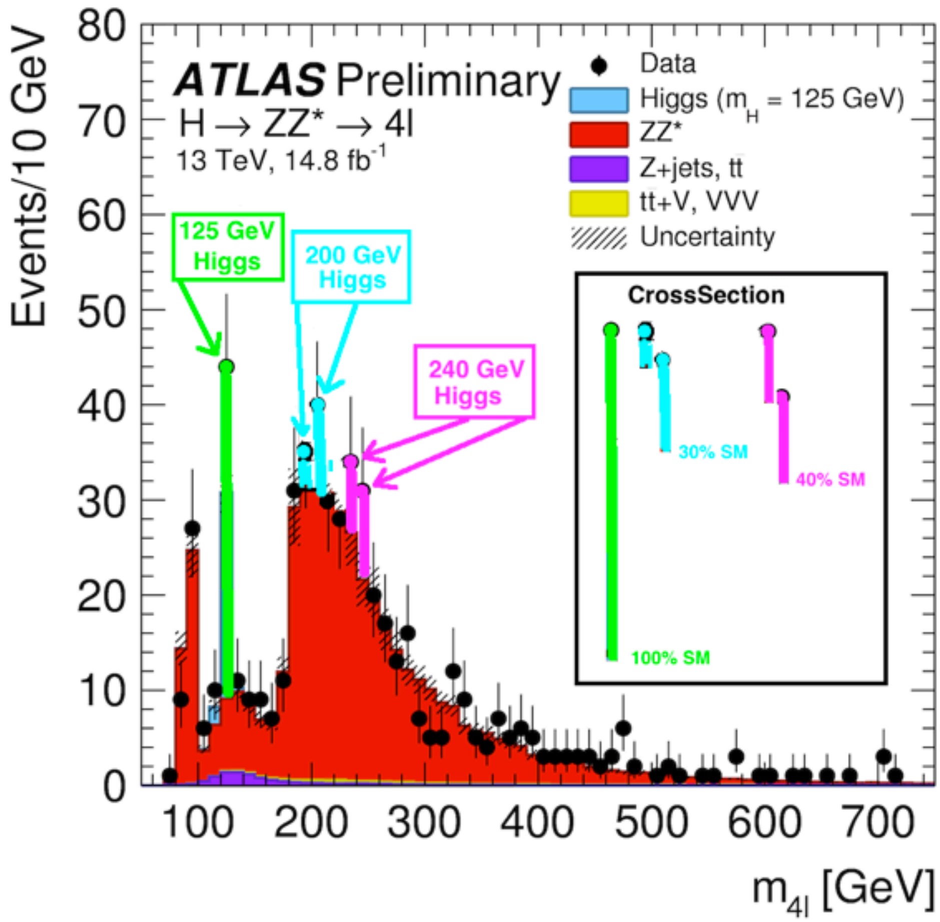
40/fb (CMS quotes 41.5, ATLAS 38.5) ...".

40 /fb = 4 Quadrillion events

At 12.9 /fb = 1.29 Quadrillion events in the Higgs -> ZZ -> 4l channel CMS PAS HIG-16-033 (Figure 3 top) **indicated 3 Higgs Mass States:**



At 14.8 /fb ATLAS-CONF-2016-079 (Figure 16) **with Background modified to be similar to that of CMS also indicated 3 Higgs Mass States:**



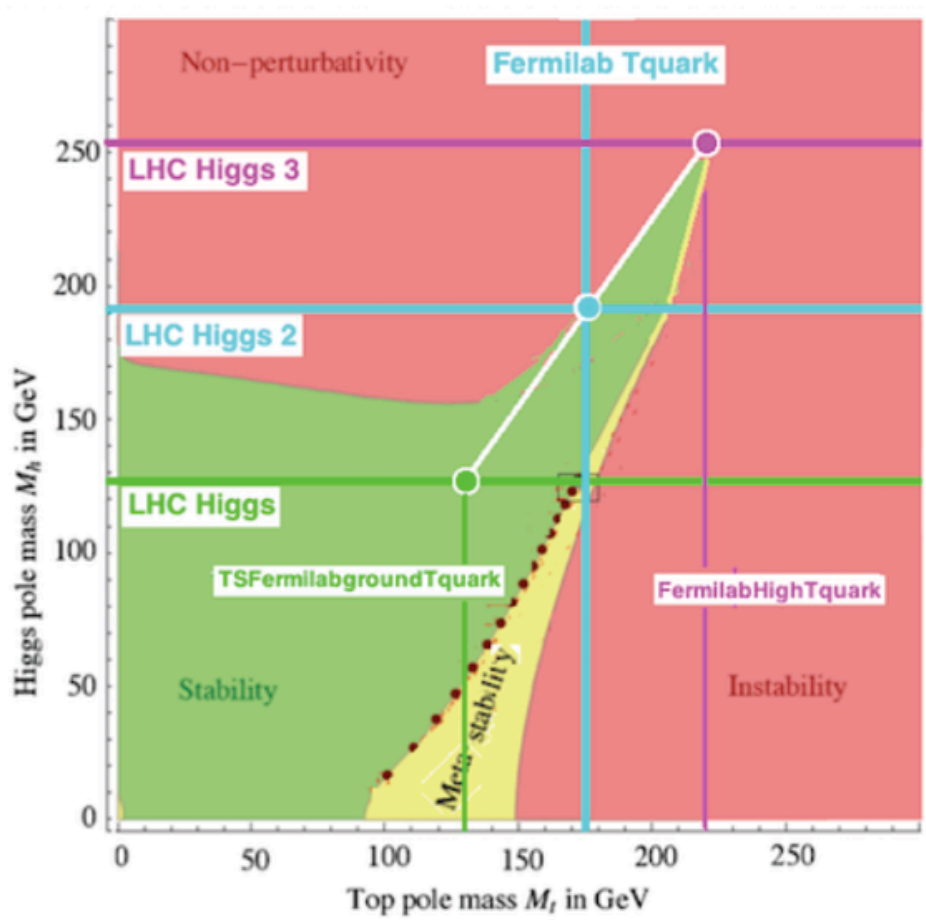
I expect that analysis in the Higgs -> ZZ -> 4l channel with the full 35-40 /fb data of the LHC 2016 run will confirm the existence of 3 Higgs Mass States:

125 GeV - with Standard Model Cross Section

200 GeV - with smaller Cross Section

240 GeV - with smaller Cross Section

In my Cl(1,25) E8 physics model (viXra 1602.0319)
the Higgs is not seen as a single fundamental scalar particle,
but rather
the Higgs is seen as a fermionic condensate
and part of a 3-state Higgs-Tquark System:



3 Higgs and Tquark Mass States are decribed in detail in Appendix A (pages 8-12)

The 3 Higgs and Tquark Mass States are:

125 GeV H and 130 GeV Tq in Normal Stable Region

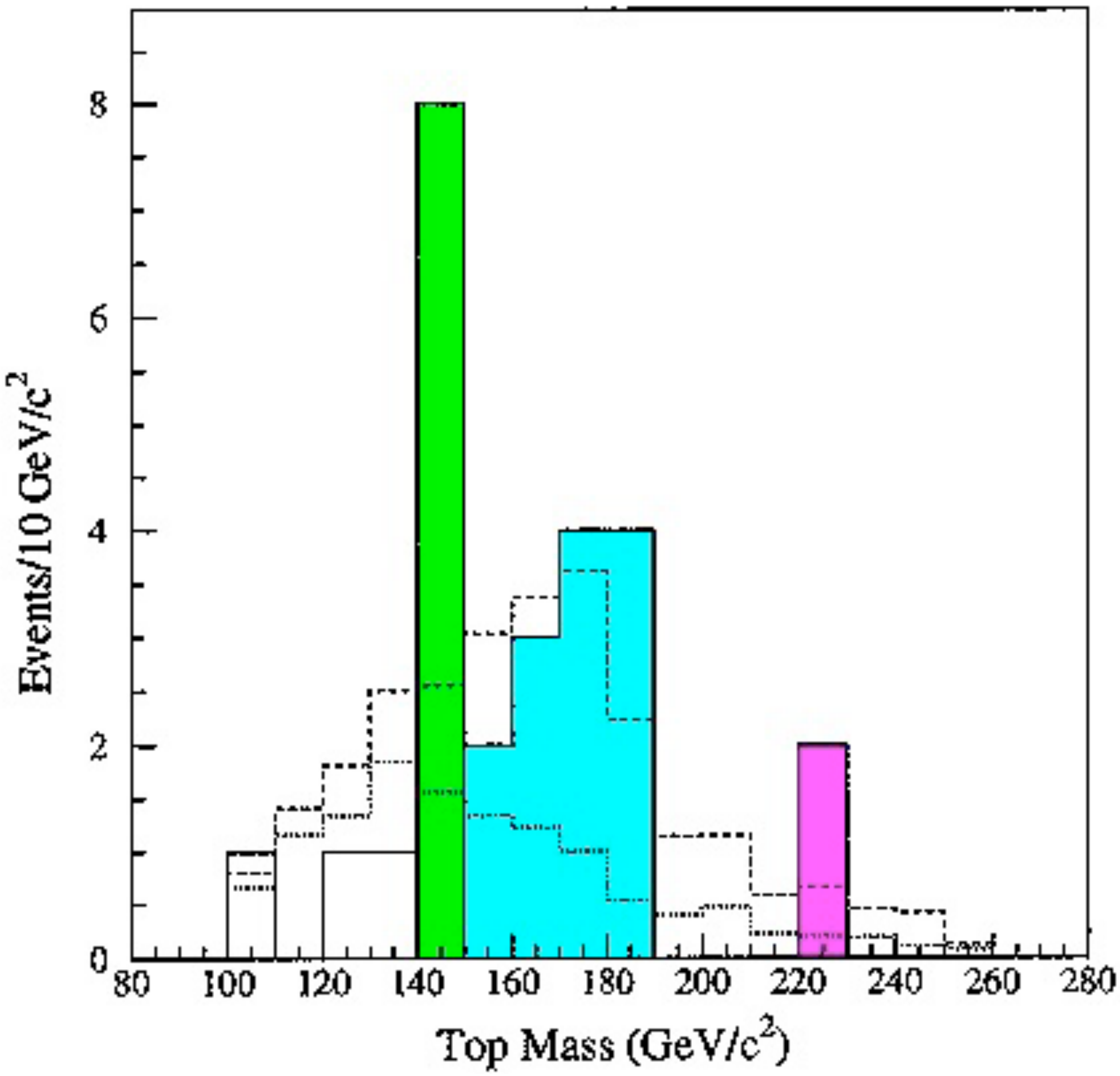
200 GeV H and 174 GeV Tq at Triviality / Composite H of K-K M4xCP2

240 GeV H and 220 GeV Tq at Vacuum Instability Critical Point / H VEV

The 3 Truth Quark Mass States corresponding to 3 Higgs Mass States have been observed by Fermilab. (pages 4-7)

A Graphic Overview of Experimental Results is Appendix C (page 19)

In 1994 a semileptonic histogram from CDF (FERMILAB-PUB-94/097-E)



showed all three states of the T-quark:

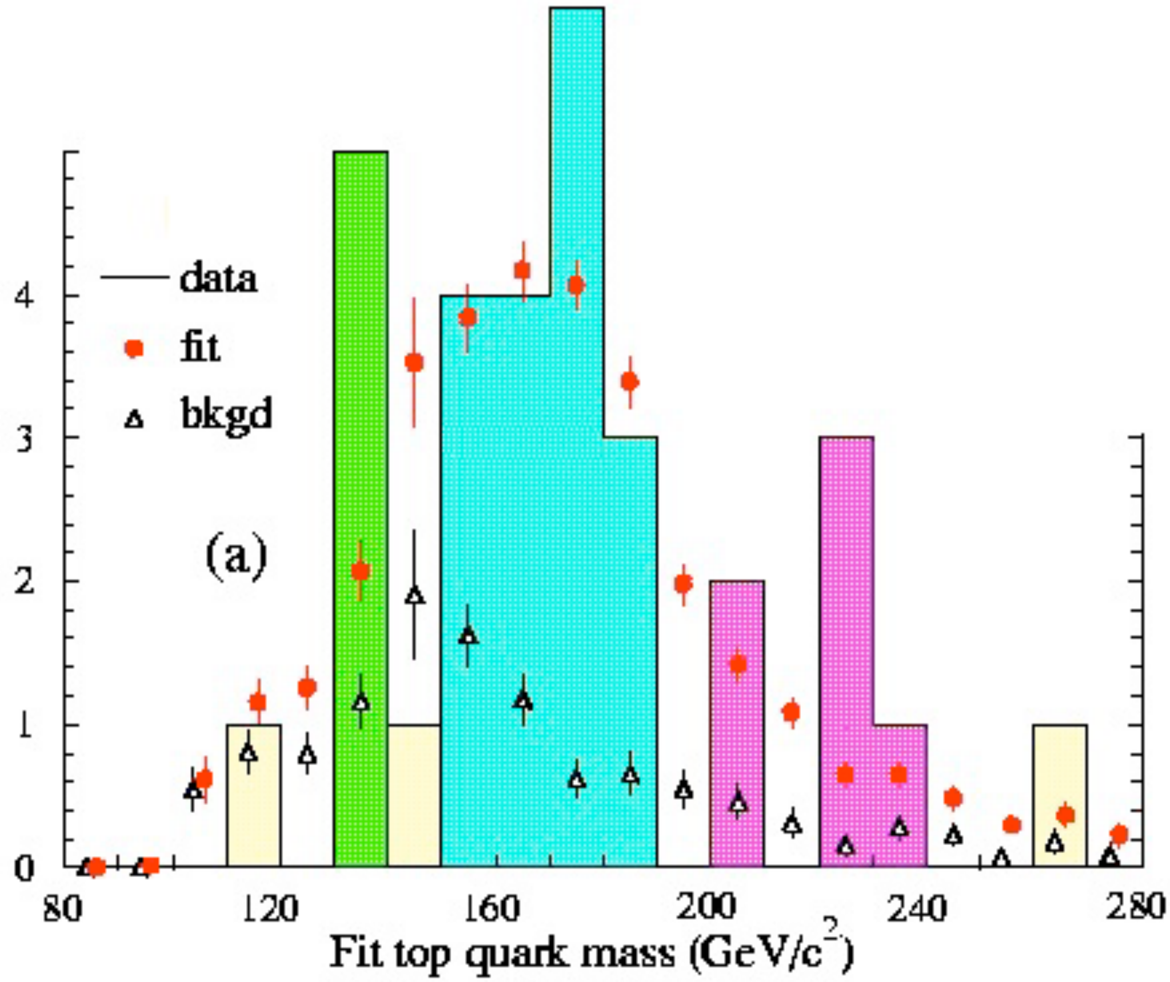
The green bar represents a bin in the 140-150 GeV range containing Semileptonic events considered by me to represent the Truth Quark.

The cyan bar represents a broader peak in the 160-180 GeV range that includes the 174 GeV Truth Quark at the Triviality Boundary of the H-Tq System.

The magenta bar represents a bin in the 220-230 GeV range of the Truth Quark at the Critical Point of the Higgs - Truth Quark System.

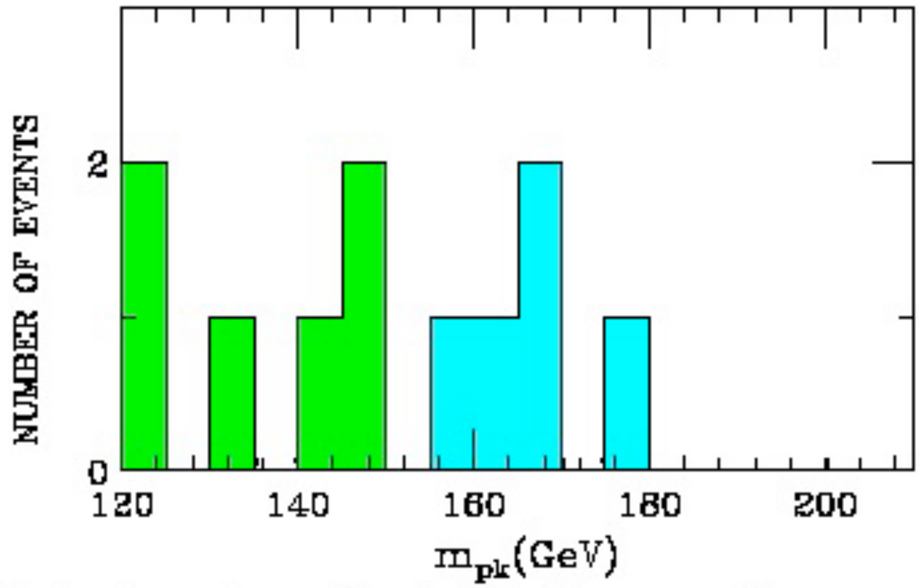
Why did Fermilab dismiss Low and High Mass States ?
See Appendix B (pages 13-18)

The same three Tquark mass states were seen in 1997 by D0 (hep-ex/9703008) in this semileptonic histogram:



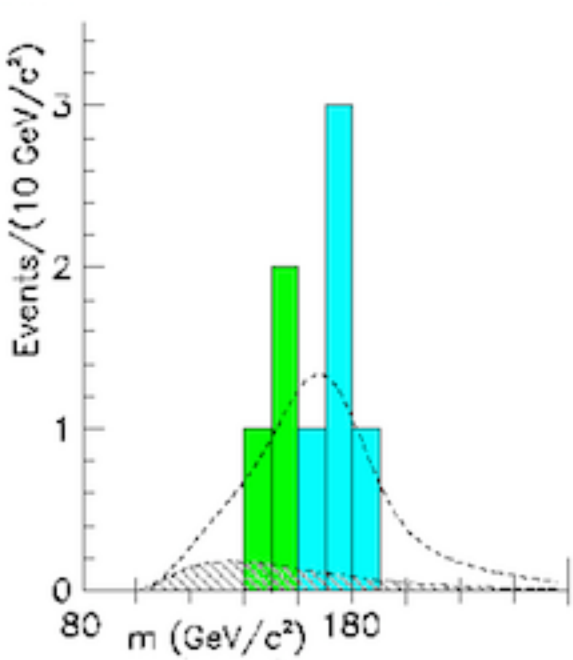
My opinion is that the middle (cyan) state is wide because
it is on the Triviality boundary
where the composite nature of the Higgs as T-Tbar condensate
becomes manifest
and
the low (cyan) state is narrow because it is in the usual non-trivial region
where the T-quark acts more nearly as a single individual particle.

In February 1998 a dilepton histogram of 11 events from CDF (hep-ex/9802017)



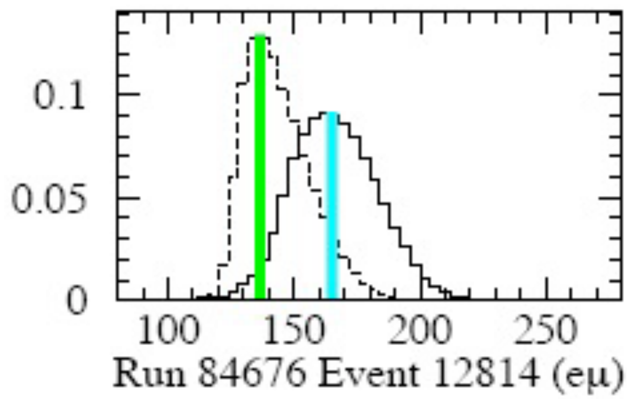
The distribution of m_{pk} values determined from 11 CDF dilepton events available empirically.

shows both the low (green) state and the middle (cyan) T-quark state
but
in October 1998 CDF revised their analysis by using only 8 Dilepton CDF events (hep-ex/9810029)



CDF kept the 8 highest-mass dilepton events, and threw away the 3 lowest-mass dilepton events that were indicated to be in the 120-135 GeV range, and shifted the mass scale upward by about 10 GeV, indicating to me tthat Fermilab was attempting to discredit the low-mass T-quark state by use of cuts etc on its T-quark data.

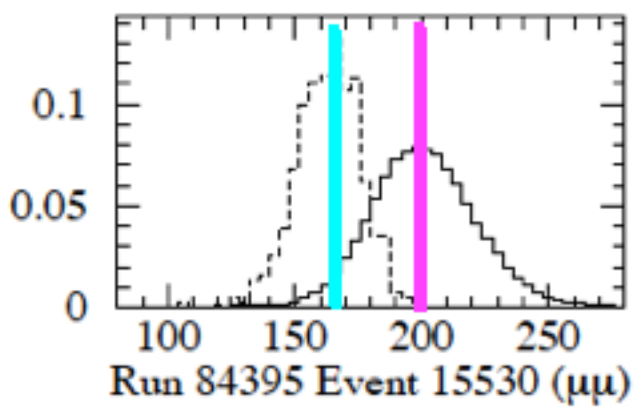
In his 1997 Ph.D. thesis Erich Ward Varnes (Varnes-fermilab-thesis-1997-28 at page 159) said: "... distributions for the dilepton candidates. For events with more than two jets, the dashed curves show the results of considering only the two highest ET jets in the reconstruction ...



...” (colored bars added by me)

The event for all 3 jets (solid curve) seems to me to correspond to decay of a middle (cyan) T-quark state with one of the 3 jets corresponding to decay from the Triviality boundary to the Normal Stable Region (green) T-quark state, whose immediately subsequent decay corresponds to the 2-jet (dashed curve) event at the low (green) energy level.

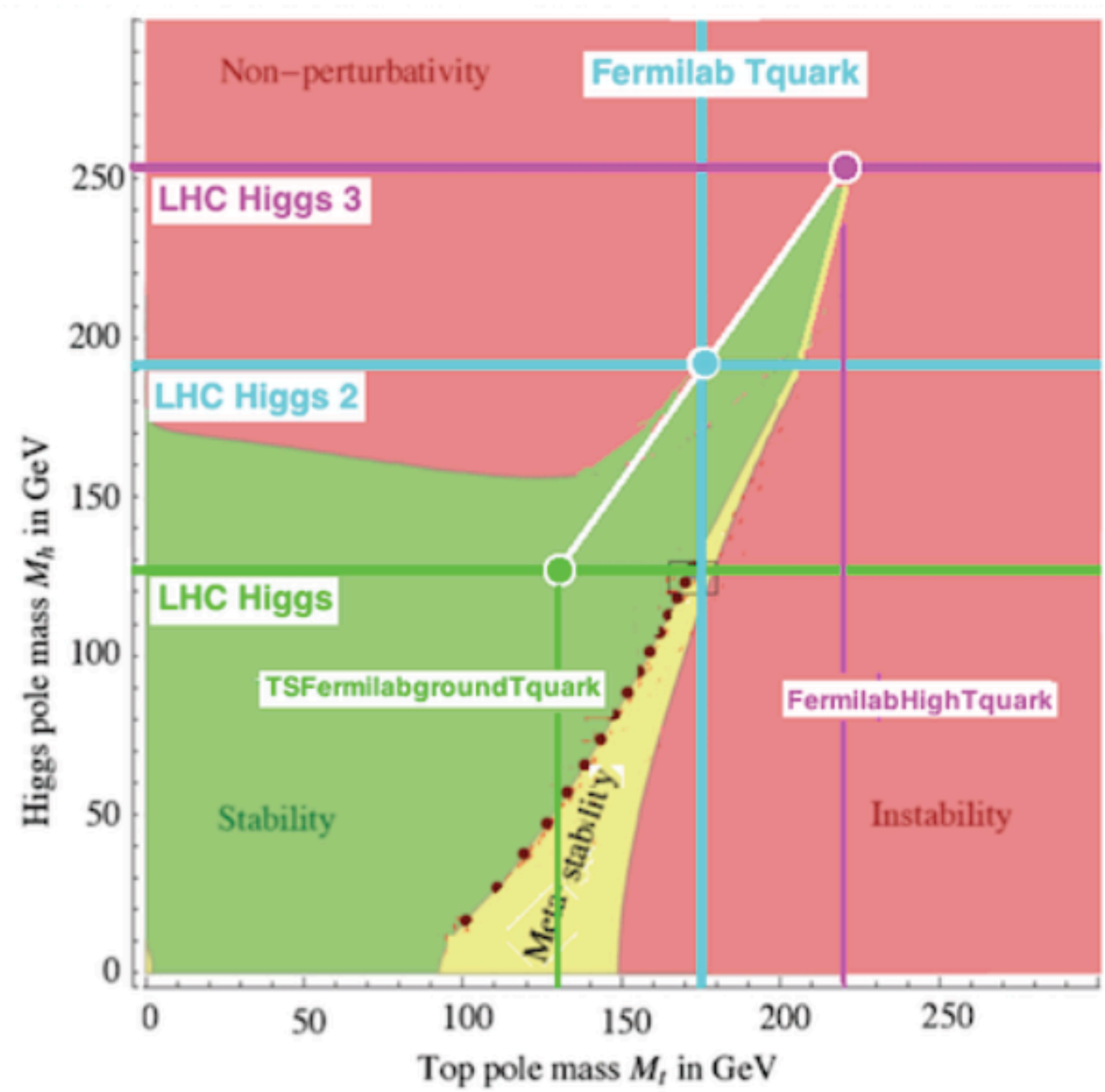
In the Varnes thesis there is one dilepton event with 3 jets (solid curve)



that seems to me to correspond to decay of a high (magenta) T-quark state with one of the 3 jets corresponding to decay from the Critical Point down to the Triviality Boundary (cyan) T-quark state, whose immediately subsequent decay corresponds to the 2-jet (dashed curve) event.

Appendix A

In my Cl(1,25) E8 physics model (viXra 1602.0319)
the Higgs is not seen as a single fundamental scalar particle,
but rather
the Higgs is seen as a fermionic condensate
and part of a 3-state Higgs-Tquark System:.



The Green Dot where the White Line originates in our Normal Stable Region is t**he low-mass state of a 130 GeV Truth Quark and a 125 GeV Higgs.**

The Cyan Dot where the White Line hits the Triviality Boundary leaving the Ordinary Phase is **the middle-mass state of a 174 GeV Truth Quark and Higgs around 200 GeV**. It corresponds to the Higgs mass calculated by Hashimoto, Tanabashi, and Yamawaki in hep-ph/0311165 where they say:

"... We perform **the most attractive channel (MAC)** analysis in the top mode standard model with TeV-scale extra dimensions, where the standard model gauge bosons and the third generation of quarks and leptons are put in D(=6,8,10,...) dimensions. In such a model, bulk gauge couplings rapidly grow in the ultraviolet region. In order to make the scenario viable, only the attractive force of the top condensate should exceed the critical coupling, while other channels such as the bottom and tau condensates should not. We then find that **the top condensate can be the MAC for D=8** ... We predict masses of the top (m_t) and the Higgs (m_H) ... based on the renormalization group for the top Yukawa and Higgs quartic couplings with the compositeness conditions at the scale where the bulk top condenses ... **for ...[Kaluza-Klein type]... dimension... D=8 ...**
m_t = 172-175 GeV and m_H=176-188 GeV ...".

As to **composite Higgs and the Triviality boundary**, Pierre Ramond says in his book Journeys Beyond the Standard Model (Perseus Books 1999) at pages 175-176: "... The Higgs quartic coupling has a complicated scale dependence. It evolves according to d lambda / d t = (1 / 16 pi^2) beta_lambda where the one loop contribution is given by beta_lambda = 12 lambda^2 - ... - 4 H ... The value of lambda at low energies is related [to] the physical value of the Higgs mass according to the tree level formula m_H = v sqrt(2 lambda) while the vacuum value is determined by the Fermi constant ... for a fixed vacuum value v, let us assume that the Higgs mass and therefore lambda is large. In that case, beta_lambda is dominated by the lambda^2 term, which drives the coupling towards its Landau pole at higher energies.
Hence the higher the Higgs mass, the higher lambda is and the close[r] the Landau pole to experimentally accessible regions. This means that **for a given (large) Higgs mass, we expect the standard model to enter a strong coupling regime at relatively low energies**, losing in the process our ability to calculate. This does not necessarily mean that the theory is incomplete, only that we can no longer handle it ... it is natural to think that this effect is caused by new strong interactions, and that the **Higgs actually is a composite** ... The resulting bound on lambda is sometimes called **the triviality bound**. The reason for this unfortunate name (the theory is anything but trivial) stems from lattice studies where the coupling is assumed to be finite everywhere; in that case the coupling is driven to zero, yielding in fact a trivial theory.
In the standard model lambda is certainly not zero. ...".

Middle Mass State Cross Section:

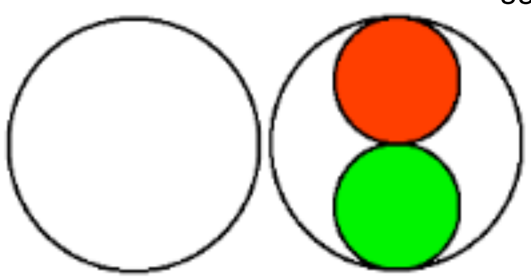
In the Cl(1,25) E8 model the D = 8 Kaluza-Klein is M4 x CP2
and the Middle-Mass Higgs structure is not restricted to Effective M4 Spacetime
as is the case with the Low-Mass Higgs Ground State
but extends to the full 4+4 = 8-dim structure of M4 x CP2 Kaluza-Klein.

```
T ----------- Tbar        in CP2 Internal Symmetry Space
 \           /
  \         /
   \       /
    \     /
     \   /
    Higgs                 in M4 Physical SpaceTime
```

Therefore the Mid-Mass Higgs looks like a 3-particle system of Higgs + T + Tbar.

The T and Tbar form a Pion-like state.
Since Tquark Mid-Mass State is 174 GeV
the Middle-Mass T-Tbar that lives in the CP2 part of (4+4)-dim Kaluza-Klein
has mass (174+174) x (135 / (312+312) = 75 GeV.

The Higgs that lives in the M4 part of (4+4)-dim Kaluza-Klein
has, by itself, its Low-Mass Ground State Effective Mass of 125 GeV.
So, the total Mid-Mass Higgs lives in full 8-dim Kaluza-Klein
with mass 75+125 = 200 GeV.
This is consistent with the Mid-Mass States of the Higgs and Tquark
being on the Triviality Boundary of the Higgs - Tquark System
and with the 8-dim Kaluza-Klein model in hep-ph/0311165 by Hashimoto, Tanabashi, and Yamawaki.As to the cross-section of the Middle-Mass Higgs



consider that the entire Ground State cross-section lives only in 4-dim M4 spacetime
(left white circle)
while the Middle-Mass Higgs cross-section lives in full 4+4 = 8-dim Kaluza-Klein
(right circle with red area only in CP2 ISS and white area partly in CP2 ISS
with only green area effectively living in 4-dim M4 spacetime)
so that
our 4-dim M4 Physical Spacetime experiments only see for the Middle-Mass Higgs
a cross-section that is 25% of the full Ground State cross-section.

The 25% may also be visualized in terms of 8-dim coordinates {1,i,j,k,E,I,J,K}

	1	i	j	k	E	I	J	K
1	11	1i	1j	1k	1E	1I	1J	1K
i	i1	ii	ij	ik	iE	iI	iJ	iK
j	j1	ji	jj	jk	jE	jI	jJ	jK
k	k1	ki	kj	kk	kE	kI	kJ	kK
E	E1	Ei	Ej	Ek	EE	EI	EJ	EK
I	I1	Ii	Ij	Ik	IE	II	IJ	IK
J	J1	Ji	Jj	Jk	JE	JI	JJ	JK
K	K1	Ki	Kj	Kk	KE	KI	KJ	KK

in which {1,i,j,k} represent M4 and {E,I,J,K} represent CP2.

The Magenta Dot at the end of the White Line is **the high-mass state of a 220 GeV Truth Quark and a 240 GeV Higgs**.
It is at the Critical Point of the Higgs-TruthQuark System
with respect to Vacuum Instability and Triviality.
It corresponds to the description in hep-ph/9603293 by Koichi Yamawakil:
"... **the top quark condensate proposed by Miransky, Tanabashi and Yamawaki (MTY) and by Nambu independently** ... entirely replaces the standard Higgs doublet by a composite one formed by a strongly coupled short range dynamics (four-fermion interaction) which triggers the top quark condensate. **The Higgs boson emerges as a tbar-t bound state and hence is deeply connected with the top quark itself**. ...
t**he BHL [Bardeen-Hill-Lindner] formulation of the top quark condensate** ... i**s based on the RG equation combined with the compositeness condition** ... [it] start[s] with the SM Lagrangian ... BHL is crucially based on the perturbative picture ... [which]... breaks down at high energy near the compositeness scale Λ ...[10^19 GeV]... there must be a certain matching scale Λ_Matching such that the perturbative picture (BHL) is valid for mu < Λ_Matching, while only the nonperturbative picture (MTY) becomes consistent for mu > Λ_Matching ...
However, thanks to the presence of a quasi-infrared fixed point, BHL prediction is numerically quite stable against ambiguity at high energy region ...
Then we expect mt = mt(BHL) = ... = 1/(sqrt(2)) ybart v within 1-2%, where ybart is the quasi-infrared fixed point given by Beta(ybart) = 0 in ... the one-loop RG equation ...
The composite Higgs loop changes ybart^2 by roughly the factor Nc/(Nc +3/2) = 2/3 compared with the MTY value, i.e., 250 GeV -> 250 x sqrt(2/3) = 204 GeV, while the electroweak gauge boson loop with opposite sign pulls it back a little bit to a higher value. The **BHL value is then given by mt = 218 +/- 3 GeV**, at Λ = 10^19 GeV.
The Higgs boson was predicted as a tbar-t bound state with a ... mass ... calculated by BHL through the full RG equation ...
the result being ... MH / mt = 1.1 at Λ = 10^19 GeV ...".

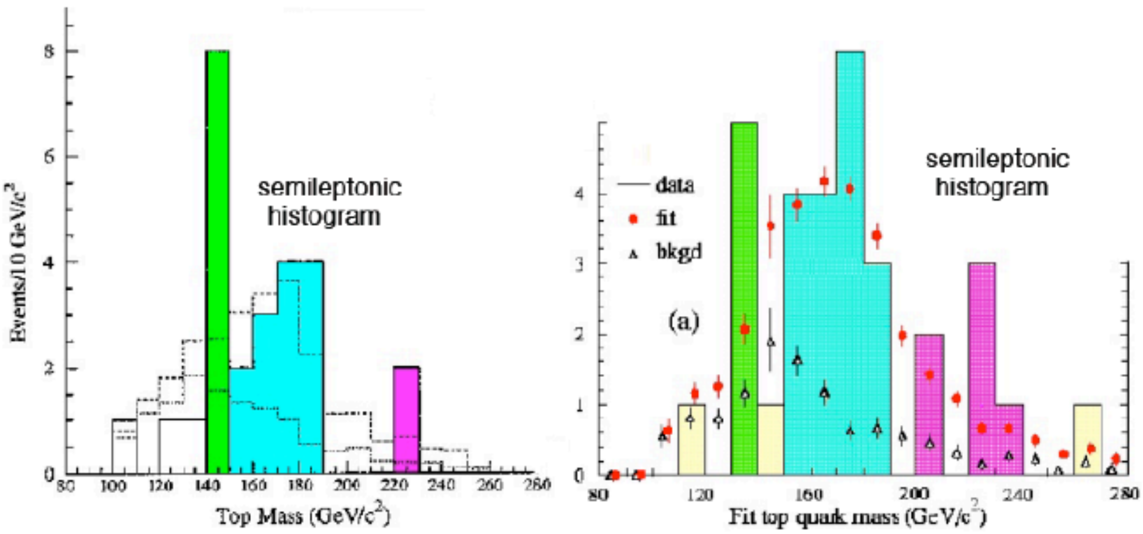
Therefore MH = 1.1 x 218 = 240 GeV which is roughly the Higgs VEV.

High Mass State Cross Section:

As with the Middle-Mass Higgs,
the High-Mass Higgs lives in all 4+4 = 8 Kaluza-Klein M4 x CP2 dimensions
so its cross-section is also about 25% of the Higgs Ground State cross-section.

Appendix B - Why did Fermilab dismiss Low and High Mass States ?

The Truth Quark High Mass State peak in the 1994 CDF semileptonic histogram is low, only 2 events out of a total of 26, so they could be dismissed as insignificant, but the Truth Quark Low Mass State peak is not low (8 of 26 events) and should not be so easily dismissed by CDF. However, in 1994, CDF in FERMILAB-PUB-94/097-E did dismiss the Low Mass peak, saying merely "... We assume the mass combinations in the 140 to 150 GeV/c^2 bin represent a statistical fluctuation since their width is narrower than expected for a top signal. ...". I strongly disagree with CDF's "statistical fluctuation" interpretation. If it were merely a "statistical fluctuation" then it would have been highly improbable for the 1997 D0 semileptonic histogram to have shown a very similar Low Mass peak, but in fact a very similar Low Mass peak is what D0 did find in 1997:



CDF (FERMILAB-PUB-94/097-E) D0 (hep-ex/9703008)

For more detailed analysis of how Fermilab data over many years has supported the reality of three mass states of the Truth Quark, see viXra 1602.0319 .

Fermilab's dismissal of the Low Mass Truth Quark peak around 130 GeV in its own data was not only a dismissal of my hep-ph/9301210 prediction but also a dismissal of other independent theoretical predictions of Truth Quark mass:

1982 - Inoue, Kakuto, Komatsu, and Takeshita in Aspects of Grand Unified Models with Softly Broken Suypersymmetry (Prog. Theor. Phys. 68 (1982) 927) relate supersymmetry to electro-weak symmetry breaking by radiative corrections and renormalization group equations, and find that the renormalization group equations have a fixed point related to a T-quark mass of about 125 GeV.

1983 - Alvarez-Gaume, Polchinski, and Wise in Nuclear Physics B221 (1983) 495-523 : "... The renormalization group equation ... tends to attract the top quark mass towards a fixed point of about 125 GeV ...".

1984 - Ibanez and Lopez in Nuclear Physics B233 (1984) 511-544 did supergravity calculations similar to Alvarez-Gaume, Polchinski, and Wise.

1993 - Chamseddine and Frohlich in hep-ph/9307209 :
"... Connes ... non-commutative geometry [NCG] provides a geometrical interpretation of the Higgs field ... the only solutions ... occur in the narrow band ...
Higgs mass 117.3 < mH < 142.6 GeV ...
with ... corresponding top quark mass ... 146.2 < mt < 147.4 GeV ...".
Later basic NCG calculation (see arXiv 1204.0328) indicated
Tquark mass upper bound of sqrt(8/3) mW = 130 GeV .

The Renormalization Group and NCG predictions have been confirmed by the LHC 2016 run which showed not only the 125 GeV Higgs Mass State but also 3 Higgs Mass States corresponding to 3 Truth Quark Mass States including the Low Mass Truth Quark State dismissed by Fermilab.

Why would Fermilab dismiss the Low Mass Truth Quark peak in its own data, even though it had theoretical support from Renormalization Group and NCG, not to mention my isolated unconventional theory ?

To understand the hostility of Fermilab to a Low Mass Truth Quark State, you must look at the details of the process whereby Fermilab sought to discover the Truth Quark after CDF's 1988-89 run which produced a dilepton candidate event.

Kent Staley in "The Evidence for the Top Quark" (Cambridge 2004) said:
"... CDF searched for the top [quark] ... in ... the "dilepton" mode ...
CDF stopped taking data at the end of May 1989 ...
Kumi Kondo's Dynamical Likelihood Method ... would give a kinematical reconstruction of events and then calculate the likelihood of that reconstruction using the dynamics of the hypothesized decay process ... **Kondo found that ... the lone dilepton candidate found during the 1988-9 run ... could be reconstructed with his method as the decay of a top-antitop pair, with a top mass of around 130 GeV/c2** ...
Goldstein, Sliwa, and Dalitz ... were trying to apply their method to the first CDF dilepton event, the same published e-mu event from the 1988-9 run that Kondo had analyzed ...
In February 1992 ... Goldstein and Sliwa were invited to present their method ... at a meeting of the heavy flavors group (the precursor to the top group) ... **Sliwa showed ... a bump ... at a top-quark mass of about 120 GeV/c2** ...
in May 1992 ... Goldstein, Sliwa, and Dalitz ... present[ed] ... analysis of data from ... 1988-9 ...[saying]... "The plots show very clearly a well separated enhancement around Mt = 135 GeV in the accumulated probability distributions, as expected by the Monte Carlo studies" ...
The top mass estimates from the Dalitz-Goldstein-Sliwa analysis ... consistently fell into the 130-140 GeV/c2 range ...
considerably l**ower than the later estimate of 174 GeV/c2**
that appeared in CDF's paper claiming evidence for the top quark
...

Then, a very strange thing happened: ...

New Scientist, dated June 27, 1992 ... announced ... “A claim that the top quark has been found is being suppressed by scientists at the Fermilab particle physics centre ... If Dalitz turns out to be correct ... the main credit for finding the particle will go to Dalitz, a scientist outside Fermilab ...” ... Dalitz, Goldstein, and Sliwa appeared in the article as a “rival group”, the publication of whose paper CDF was “blocking”, and the author reported Goldstein saying that he was “‘quite confident’ that they have discovered the existence and the mass of the (Top) quark.”
...
An article ... in the July 24 issue of Science ... recounted how the results of the Sliwa-Goldstein-Dalitz analysis were presented to CDF ...
Goldstein and Dalitz were subsequently excluded from CDF top group meetings ...
CDF physicist... “Shochet says **CDF member Sliwa violated an unwritten code of ethics by sharing data with outsiders**.”
...
Sliwa denied that he had made substantive information about CDF’s unpublished data available to Dalitz and Goldstein
...
the unpleasant atmosphere generated by the controversy surrounding Sliwa’s work hampered progress on the Dalitz-Goldstein-Sliwa method ...
Krys really never got the time of day after [the appearance of the articles in New Scientist and Science]...[He] took it very personally, and responded very personally
...
he was “spurned by the rest of the collaboration: because he was acting singly, and not in a larger collaboration” ...”.

Tommaso Dorigo has written a book, “Anomaly”

(to be published by World on 5 Nov 2016),
that may give more details of the situation. He has blogged and commented on it over the past years (2006-2013), saying in part:
“... In **December 1988** a one-day workshop was organized in the Ramsey auditorium, the conference room at the basement floor of the Hirise, the main building of the Fermi National Accelerator Laboratory. The workshop was the first of a series of meetings that would take place in the course of the following few years, and it was specifically devoted to focused discussions on the top quark search, which was being performed independently by several groups of CDF physicists
...
one got the feeling that a well-defined strategy for the top search was missing. Indeed, back then it was not even clear to most CDF researchers that the main background to top production was constituted by events featuring a W boson together with hadronic jets produced by QCD radiation
...

Finally, the time came for the talk by Kuni Kondo. Prof. Kondo was a Japanese physicist who led a sizable group of researchers from the University of Tsukuba. In his late fifties, he was lean, not tall, with black hair combed straight above an incipient baldness; he usually dressed in black or grey suits. He was a charming and very polite person, who spoke with a soft tone of voice and smiled a lot.
It looked like nothing could ever upset him.

Kondo had devised a very complex, deep method to discriminate top quark events from the background, based on an analysis approach he had dubbed "dynamical likelihood" which would become a sophisticated standard only a decade later, but which was taken with quite a bit of scepticism at the time; in private, quite a few of his American and Italian colleagues would even make silly jokes on it. The method consisted in constructing probability distributions for the observed kinematics of the events, which could then be used to derive the likelihood that the events were more signal-like or background-like.

It is ironic to think that nowadays all the most precise measurements of the mass of the top quark rely on the method called "matrix element", which is nothing but Kondo's original idea recast in the context of a measurement of the mass rather than the discrimination of a top signal. Kondo was way ahead of his time, and like most pioneers in science he did not have an easy life getting his work appreciated and accepted, in a situation dominated by a conservative mainstream.

It is by now four in the afternoon, and Kondo finally gives a full status report of his analysis. His presentation is thorough and yet almost unintelligible by a good half of his listeners; his analysis includes highly unorthodox and yet brilliant tricks, like taking a jet from one event and mixing it in with other jets in a different event to study the behaviour of some of his selection variables for background events. His colleagues listen in an atmosphere of disbelief mixed with awe. Despite the complexity of the material and the possibility to object on a hundred of details, no questions are asked.
As **Kondo** reaches the end of his talk, he concludes with a tone of voice just a milli-decibel higher than the rest of his speech:

"And therefore", a pause, and then "I think we have discovered the top quark".

The audience remains silent.
The convener is a tall, lean guy with a sharp nose and a penetrating stare; he looks like an English gentleman from a XIXth century novel, especially thanks to his considerable aplomb. He is not impressed, and that much does show.
"Thank you very much Kuni. Is there any question ?", one, two, three, four,
"...No questions. Okay, thanks again Kuni. The next speaker is...".
In retrospect the convener's attitude and lack of consideration toward an esteemed colleague and a visitor from another country, who had brought to the experiment lots of resources and had contributed significantly to the detector construction,
sounds at least rude and unjustified.

Still, back then CDF was not a place where people would exchange courtesies and compliments (it never was, in truth): there everybody had to work hard and the only way to earn the respect of colleagues was through the good physics output of one's analysis results. If your analysis methods were not considered publishable or your results were thought fallacious, you would be considered a potential threat to the good name of the experiment, and you would suffer little short than boycott.
But the way Kondo was treated was all flowers in comparison to what other physicists would experience, along the way to the top discovery
...
[1992] I had started working on CDF ... and I remember that one of the very first articles I read was the limit on top quark production where the famous dilepton ttbar candidate was mentioned. An event that is indeed most likely the first clear top-antitop decay detected in a particle physics experiment
...
Back then, Krisztof Sliwa analyzed the ttbar candidate by CDF in the dileptonic final state with an analysis called “neutrino weighting technique” which has later become a standard, and worked with Dalitz and Goldstein on a paper which was not authorized by the CDF collaboration
…
CDF, as a collection of physicists, did feel betrayed by Chris Sliwa. I do not know how clear was the violation of internal rules of the experiment, but for sure that was the sentiment circulating those days in the corridors of the CDF trailers
...
there was this air of suspicion around in 1992
…
As if somebody had committed Heresy! ...”.

I have pre-ordered a copy of Tommaso’s book from Amazon and am looking forward to seeing how it discusses the situation.

Back in the 1990s, a very bad thing had happened:

Two issues had arisen:

1 - Physics Issue - Does the 130 GeV Truth Quark Low Mass State exist and did the Kondo and/or Sliwa-Goldstein-Dalitz Likelihood Method find it ?

2 - Bureaucratic Issue - Was Sliwa's sharing of CDF data with Goldstein and Dalitz a serious violation of an unwritten ethical code ?

Fermilab, as a large physics collaboration with power over jobs and funding, was in position to decide which of the issues should be pursued or suppressed.

It could have decided to pursue both issues, but it did not.

It decided to suppress the Physics Issue (and the Truth Quark Low Mass State) so that individual outsiders (and their ideas) would go away and only Fermilab consensus ideas would survive in the world of physics, and the Fermilab consensus was that the one and only Tquark Mass State, the 174 GeV Mass State, would be recognized in the world of physics.

It decided to pursue the Bureaucratic Issue because that allowed Fermilab to use its jobs-funding power to enforce its consensus view that the one and only Tquark Mass State was the 174 GeV Mass State.

So, instead of searching for Truth, Fermilab asserted its Power.

Regrettably, this is a common characteristic of Human Political Bureaucracies,
as is exemplified by attacks on Snowdon and Assange as criminals
for sharing Truthful Information with the public
thus deflecting attention from the True Facts to details of Criminal Prosecution
and instilling fear in others who might think about telling the Truth.

Now a quarter century later, a very good thing has happened:

In this case, suppression of the Physics Issue failed because:

the Physics Issue has been raised by the LHC 2016 run data
which shows evidence of 3 Higgs Mass States
which correspond to 3 Truth Quark Mass States
and
the 3-Mass-State-T-quark should now be known by its true name:

the Truth Quark.

Appendix C –
Graphic Overview of Experimental Results