

# Games of Particles

Final draft: Dec. 18<sup>th</sup>, 2014

Rolf Stark:	John E
Handmaiden #1:	Nanie
Handmaiden #2:	Michelle
Sergio Bertoluccister:	Agostino
Theorist #1 - composite	Alberto
Theorist #2 - extra D	Sebastian S
Theorist #3 - SUSY	Pedro S
Theorist #4 - Higgsless	Marina M
Eingang/Augang:	Dieter L
Cosmologist:	Diego
Planck:	Julien
Fedor of Connecticutos:	Fedor
BICEP:	Urs
Andrei of Stanfordos:	Sergei S
Paparazzo:	Sasha
Elena:	Elena
Chair of Council of 21 Kingdoms:	Andrzej S
John of Englos:	Liam K
Jim of Englos:	Subodh
Terry of Englos:	Gavin
UK delegate:	Jeanne
Frank of Netherlos:	Michelangelo
Fabiolys:	Gian
Duchess of CMStark:	Nazila
Duke of ATLAnniSter:	Alexandre
"Happy":	Julien

*[START Game of Thrones music]*

## **Games of Particles**

### **Scene 1: Game of Theories**

*[END Game of Thrones music]*

*[The old king, **Rolf Stark**, ENTERS and sits on his Iron Throne in CERNos, surrounded by sycophantic **Handmaidens**.]*

**Rolf:** It may seem like 60 years, but I have sat *[SITS]* on the Iron Throne of CERNos for only 7 years, *[STANDS]* and been renewed only once - so far. How can I persuade the Council of the 21 Kingdoms of CERNos to extend my reign until the end of my days, so that I do not have to worry about the reduction in pensions plotted by the Council? *[boos]*

**Sergio Bertoluccister:** All you have to do is discover a new particle.

**Rolf:** *[PATS him]* Looks like you made a massive discovery!

**Sergio Bertoluccister:** Let us seek the advice of the Magicians of Theoros. Any sufficiently advanced theory is indistinguishable from magic.

*[Sword sounds. Clamour of theorists proposing new particles.]*

**Theorist #1:** All you have to do is discover my composite supermodel *[shows composite picture of Gisele Bundchen and Naomi Campbell]*.

**Theorist #2:** No, no, you must discover large extra dimensions *[shows creature with large extra dimensions]*. Look, she has four, with two (not so) hidden valleys.

**Theorist #3:** No, no, you must discover SUSY *[shows picture of SUSY]*.

**Theorist #4:** No, no, if you really want to make headlines, you must **undiscover** the Higgs boson *[shows picture of Higgsless model]*. Look, Sheldon has discovered glorious technicolour.

**Rolf:** *[INTERVENES]* This is not a theoretical seminar. Who am I to believe? I need expert advice. Where is Ignatios, the Duke of Theoros. Bring him here!

**Sergio:** Unfortunately, we do not seem to be able to find the Duke of Theoros just now, and there are many rumours what may have happened to him.

**Theorist #1:** I heard a rumour he has been kidnapped by the CNRS and is being waterboarded at the Ecole Polytechnique *[shows photoshop of IA and Khalid Sheikh Mohammed]*.

**Handmaiden #1:** Do not spill water on our new carpet!

**Theorist #2:** No, no, I saw him in a video by the ERC *[shows guy in orange jumpsuit being threatened by guy with big knife]*.

**Handmaiden #2:** Do not get bloodstains on our new carpet!

**Theorist #3:** I heard a rumour he was planning to take a flight with Malaysian Airlines *[throws paper airplane, crashing and tinkling sounds]*.

**Theorist #4:** I heard a rumour he was on holiday in West Africa *[shows person in isolation suit]*.

**Rolf:** You are no help! Have some paella from the cafeteria *[they do, and all collapse [they are dragged off by the **Cosmologists**]. [to audience]* Every good Game of Thrones episode has a mass poisoning. Wherever he is, we need a new Duke of Theoros. Wo ist Lord Eingang? *[ENTER Eingang. Sinks to his knees, ceremonious kissing of hand, etc.]* Grüss dich. You are hereby appointed the Duke of Theoros until I get cross with you too. What can I discover so that my glorious reign will be infinite?

**Eingang:** Easy, you build an interstellar wormhole accelerator able to reach the Planck energy, so that you can discover string ....

**Rolf:** We reach 13 TeV next year, not the Planck scale. You are just as useless as the previous Duke of Theoros. What ingratitude after I put a nice new carpet in your corridor. *[Cheers and boos.]* I do not want to take any more crap from theorists. I will think again about renovating your toilets. Why don't you disappear up your own wormhole. *[Eingang reverses sign to reveal Ausgang, and EXITS.]* I will consult the Duke of Cosmos.

*[Game of Thrones music]*

## **Scene 2: A (Dust) Storm of Cosmology**

**Rolf:** *[ENTERS accompanied by handmaidens]* Can you cosmological soothsayers tell me what is written in the stars? Or in your crystal balls?

**Cosmologist:** *[ENTERS, looking into ball]* I am having trouble looking into the future. There seems to be too much dust. According to the measurements of the Higgs and top mass, the Universe is doomed to collapse *[cheers]*.

**Rolf:** Screw the Universe. What about my extension as DG?

**Cosmologist:** It seems that the lifetime of the Universe will be 10 to the power 137 years, more or less.

**Rolf:** Good enough for me, though I doubt the pension fund will last that long. Lord Planck, what can you suggest?

**Planck:** We see nothing interesting in the sky. No non-Gaussianities, no B-modes, just the standard cosmological model.

**Fedor of Connecticutos:** *[ENTERS enthusiastically, to audience]* This is why I came to CERN. To live my dream of acting in a Theory Christmas play! *[to actors]* My theory of Higgs inflation predicted small gravitational waves. Give me the Nobel Prize *[grabs statuette]*.

**BICEP:** *[muscling in, flexing his biceps]* No, no! You got it wrong. We see large B-modes. Give us the Nobel Prize *[grabs statuette]*. *[ENTER Andrei and Paparazzo]* Five sigma! They must be quantum gravitational waves.

**Andrei of Stanfordos:** *[being interviewed on his doorstep, videocamera, champagne]* No, you should give it to me *[grabs statuette]*!

**Rolf:** How do we know which is right?

**Cosmologist:** They just had a big conference organized by Italians in an old palace without wifi, and the only press release is in Basque *[displays]*. But the gravitational wave signal looks very weak.

**Fedor of Connecticutos:** I told you that my theory of Higgs inflation predicts small gravitational waves. Give me back the Nobel Prize *[grabs statuette]*.

**Andrei of Stanfordos:** No, give it back to me: I also have a theory that predicts small gravitational waves *[grabs statuette]*.

*[Sword sounds. Scene ends in an unseemly brawl.]*

**Rolf:** You are not in Ukraine now! You cosmological soothsayers are also completely useless. Have some paella from the cafeteria *{they do, collapse, and are dragged off by the Theorists}*. Another nice mass poisoning inspired by Game of Thrones!

*[Game of Thrones music]*

### **Scene 3: A Clash of Kings (& a Queen)**

**Rolf:** *[ENTERS, still accompanied by handmaidens]* There are no new particles to be discovered after the Higgs boson. I must look for a new job. What can a retired DG do?

**Elena:** Now that George Clooney has got married *[ladies swoon]*, Nespresso needs somebody new for their commercials.

**Rolf:** *[Takes cup]* Who else?

**Elena & Handmaidens:** Matt Damon.

**Rolf:** How about the Nobel Peace Prize as a consolation?

**Sergio Bertoluccister:** Sorry, that went to Putin for making peace in Ukraine.

*{Fedor waves statuette.}*

**Chair of the Council of the 21 Kingdoms:** Time for you to go.

*[EXIT Rolf amid ironic cheers, Handmaidens remain, and try to ingratiate themselves with the candidates.]*

Who wants to be next to sit on the Iron Throne of CERNos?

*[Eurovision song contest music. Candidates ENTER one by one, each one fights with the previous ones.]*

**John of Womerslos:** *[ENTERS]* I am the best candidate *[grins]*: I was spokesman of an experiment at Fermilabos *[grins]*, and I am a top administrator *[grins]*. Why don't you just choose me straight away *[grins]*, without bothering with an election *[grins]*?

**Jim of Englos:** *[ENTERS]* I am Jim of Imperial College-os, Former Lord Regnant of the House of CMStark and a knight of the kingdom of Englos.

**Chair of the Council of the 21 Kingdoms:** You guys are too good *[Chair dismisses them, they EXIT]*. Isn't there a less distinguished candidate from Englos?

**Terry of Englos:** *[ENTERS]* I am Terry of Manchesteros *[smiles a bit nervously]*, Former Lord Regnant of Dzero-os *[smiles a bit nervously]*, and now I am an unknown member of the House of ATLAnniSter *[smiles a bit nervously]*.

**Chair of the Council of the 21 Kingdoms:** The perfect candidate from Englos.

**UK delegate:** My Government and I give Lord Terry all the support he deserves. *[Stabs Terry of Englos in the back, he FALLS.]*

**Frank of Netherlos:** *[ENTERS]* I am Frank, Former Lord Regnant of NIKHEFos. If elected, I promise not to exploit the LHC fully *[boos]*, to cut the salaries and pensions of CERNos staff *[boos]*, and to put the money into non-accelerator experiments *[boos from most, cheers from cosmologists]*. And I promise to change the kids' section of the cafeteria into an Amsterdam-style "coffee shop" *[cheers]*, liberate Theory from the PH Department *[cheers]*, and replace the secretariat by a red-light district *[boos, protests from Handmaidens]*.

**Fabiolys CERNaryen:** *[ENTERS]* I am Fabiolys, Former Lady Regnant of the House of ATLAnniSter, Mother of the Higgs boson, Advisor on all things Scientific to the United Nations Secretary-General, Player of Most Melodious classical piano music *[music from ATLAS CD]*. If elected, I promise to exploit the LHC fully *[cheers from most, boos from cosmologists]*, to liberate the slaves of CERNos *[cheers]*, and make sure you all get paid pensions *[loud cheers]*. And I promise never again to use Comic Sans in my presentations *[loudest cheers]*.

**Chair of the Council of the 21 Kingdoms:** Where is Conchita? *[PAUSES & LOOKS around]* We will now have a secret vote. *[The three candidates shout vote for me, etc.]* Please all raise your hands secretly. Lord Terry? *[STEPS FORWARD, nobody votes]* Lord Frank? *[STEPS FORWARD, one person votes]* Lady Fabiolys? *[STEPS FORWARD, everybody votes]*

**Chair of the Council of the 21 Kingdoms:** It was a close result, but I declare Fabiolys elected as the next Queen on the Iron Throne of CERNos [*cheers*].

[*Game of Thrones music*]

#### **Scene 4: A Dance of Accelerators**

[*Fabiolys CERNaryen ENTERS and sits on the Iron Throne, surrounded by the usual group of handmaidens, trimming her nails, combing her hair, etc.*]

**Fabiolys CERNaryen:** Now that the Council of the 21 Kingdoms has chosen me to sit [*SITS*] on the Iron Throne, CERNos [*STANDS*] is mine, mine, all mine! [*loud cheers*].

**Handmaiden #1:** My lady, bad news from the land of Swissos. They want to stop immigration from the other 20 kingdoms.

**Fabiolys CERNaryen:** No problem. I will re-enslave the CERNos staff and extend the retirement age [*boos*], so that we do not need all those visiting scientists.

**Everybody:** What about our pensions?

**Handmaiden #2:** My lady, bad news from the land of Japanos. They want to build a new accelerator and are asking the Council of the 21 Kingdoms to give them lots of money.

**Fabiolys CERNaryen:** No problem. We will raid the pension fund [*boos*].

**Everybody:** What about our pensions?

**Elena:** My lady, more bad news from beyond the Great Wall. The Pekingraki of Chinos plan to build a larger circular collider, and kill off CERNos.

**Everybody:** What about our pensions?

**Fabiolys CERNaryen:** I have more important things to worry about. Now that there is a female DG, I should not have beautiful handmaidens [*dismisses them*], I should have handsome manservants.

[*ENTER scantily-clad Manservants who minister to her every need.*]

**Fabiolys CERNaryen:** That's better! I will expand the territories of CERNos. I will build an even larger hadron collider, around Genevos, and far into France-os: the FCC.

**Manservant #1:** What does FCC stand for?

**Rolf:** F\*ing Crazy Collider.

**Manservant #2:** What a f\*ing crazy acronym.

**Everybody left:** How are you going to pay for this?

**Everybody right:** What about our pensions?

**Duchess of CMStark:** My lady, good news from the fortress in the north: we have beaten back the uncertainties in the Standard Model, and discovered a composite supermodel [*shows picture, cheers*].

**Duke of ATLAnniSter:** My lady, good news from the fortress in the south: we have defeated the Standard Model backgrounds, and discovered SUSY [*shows picture, cheers*].

**Fabiolys CERNaryen:** See what a wonderful DG I will be! Now the 21 kingdoms will give us enough money to build the F\*ing Crazy Collider without raiding the pension fund.

**Rolf:** Would you like some paella?

**Everybody left:** [*ENTER*] Long live Queen Fabiolys ...

**Everybody right:** [*ENTER*] ... on the Iron Throne of CERNos!

[*Game of Thrones music until everybody is on stage*]

[*"Happy" music: sung by Julien, Diego, Right Left*]

It might seem crazy what we're about to say  
SUSY's soon here, believe what I say  
With a hot air balloon, or going into space  
'Bove the air, looking for microwaves

*Because we're happy*  
Clap along if you feel like a mod'l without a Higgs  
*Because we're happy*  
Clap along if you feel like extra D is the truth  
*Because we're happy*  
Clap along if you know what LHC'll give to you  
*Because We're happy*  
Clap along if you feel FCC's what you wanna do

Here come del'gates talking this and that  
Don't take 'way all we got, please give it back  
Yeah, well we think with Fabiolys we will be just fine  
Yeah, no offense to Rolf don't waste your time  
Here's why

*Because we're happy*  
Clap along if you feel like a mod'l without a Higgs  
*Because we're happy*

Clap along if you feel like extra D is the truth  
*Because we're happy*  
Clap along if you know what LHC'll give to you  
*Because we're happy*  
Clap along if you feel FCC's what you wanna do

*Happy, bring me down*  
*Can't nothing, bring me down*  
*CERN's too happy to bring me down*  
*Can't nothing, bring me down*  
I said bring me down  
*Can't nothing, bring me down*  
*CERN's too happy to bring me down*  
*Can't nothing, bring me down*  
I said

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*["Happy" music continues without singing, with dancing]*