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Permanents & Longterms

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What are all these guys doing the whole day ?
(or at least trying)

String theory
(in it's various reincarnations)



?

The real world

String theory
(in it's various reincarnations)

Compactification
+
Moduli stabilization



String theory
(in it's various reincarnations)

Compactification
+
Moduli stabilization

One possibility:
Type II flux compactification
(on conformal CY background)

+KKLT (or something similar)



$10^{>500}$ vacua



Dieter Lüst



Waldemar Schulgin



Stephan Stieberger

Contribution:

IIB flux compactification and KKLT applied to toroidal orientifolds and blowups thereof:

hep-th/0506090 & hep-th/0609013
(with S. Reffert and E. Scheidegger)

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String theory
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Compactification
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One possibility:
Type II flux compactification
(on conformal CY background)
+KKLT (or something similar)



Contribution:

Consistency of D-term uplift in
KKLT scenario:

hep-th/0609211
(with A. van Proeyen)



Michael Haack



Daniel Krefl



Dieter Lüst



Marco Zagermann

String theory
(in it's various reincarnations)

One possibility:
Type II flux compactification
(on conformal CY background)

+KKLT (or something similar)

Contribution:

D-instanton corrections to gauge
kinetic functions and FI terms

arXiv:0705.2366



Ralph Blumenhagen



Dieter Lüst



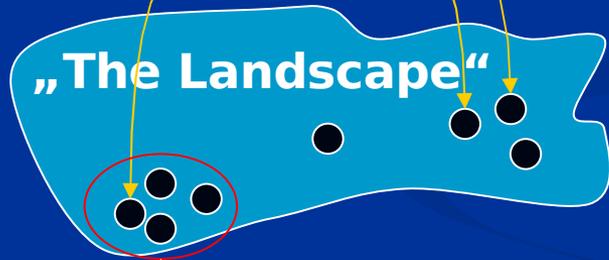
Nikolas Akerblom



Maximilian Schmidt-Sommerfeld

String theory
(in it's various reincarnations)

Compactification
+
Moduli stabilization



Generalization:
Generalized II flux compactification
($SU(3) \times SU(3)$ structure background)

! Talk: Tue. 17:20h

String theory
(in it's various reincarnations)

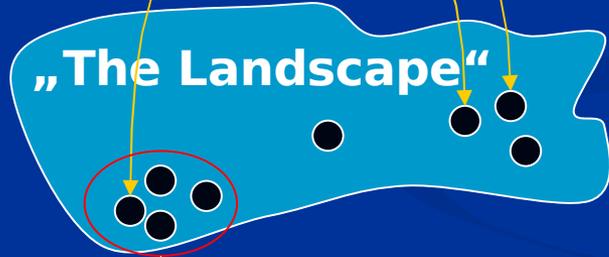


Paul Koerber

Compactification
+
Moduli stabilization



Dimitrios Tsimpis



Contribution:

Compatibility of orientifold
planes with general generalized
 $SU(3) \times SU(3)$ structure

arXiv:0706.1244

Generalization:

Generalized II flux compactification
($SU(3) \times SU(3)$ structure background)

String theory
(in it's various reincarnations)

Compactification
+
Moduli stabilization



Our real world

String theory
(in it's various reincarnations)

Compactification
+
Moduli stabilization



Most likely not the real world,
but maybe
in some aspects similar



Similar world

String theory
(in it's various reincarnations)

Compactification
+
Moduli stabilization



Confront with
Cosmology/Inflation



Similar world



Axel Krause



Enrico Pajer

String theory
(in it's various reincarnations)

Setup:

Type II flux compactification
(on conformal CY background)

+KKLT (or something similar)



Contribution:

D3 position as inflaton with
additional D7 and Anti-D3 in
warped conifold throat

arXiv: 0705.4682

Confront with
Cosmology/Inflation



Similar world

String theory
(in it's various reincarnations)



MSSM or GUT
like model

How can perturbatively
forbidden couplings be realised ?

?

Similar world

String theory
(in it's various reincarnations)

Setup:
Type IIA intersecting branes

Contribution:

Non-perturbative generation of Yukawa couplings via stringy instantons.

arXiv:0707.1871
(with M. Cvetič, R. Richter and T. Weigand)



MSSM or GUT like model

?

How can perturbatively forbidden couplings be realised ?

Similar world



Ralph Blumenhagen



Dieter Lüst



Daniel Krefl

String theory
(in it's various reincarnations)

Setup:
IIB with branes at singularities

Contribution:

Inferring possible stringy instanton induced couplings in local models via dimers

arXiv:0707.0298

(with S. Franco, A. Hanany, J. Park, A. Uranga and D. Vegh)



MSSM or GUT like model

How can perturbatively forbidden couplings be realised ?



! Talk: Tue. 17:40h

Similar world

String theory
(in it's various reincarnations)



?

The real world

String theory
(in it's various incarnations)

AdS/CFT

?

QCD





Johanna Erdmenger



Rene Meyer

String theory
(in it's various reincarnations)

AdS/CFT



Question:
What about flavors ?

QCD

Recent contribution:

AdS/CFT with flavor in B-field background

arXiv: 0709.1551
(with J.P. Shock)



Amos Yarom

String theory
(in it's various reincarnations)

AdS/CFT



Idea:

Try to understand experimental results in heavy ion collisions via AdS/CFT!

Contribution:

QCD

Universal features of the energy loss of a quark moving through a strongly coupled quark-gluon-plasma

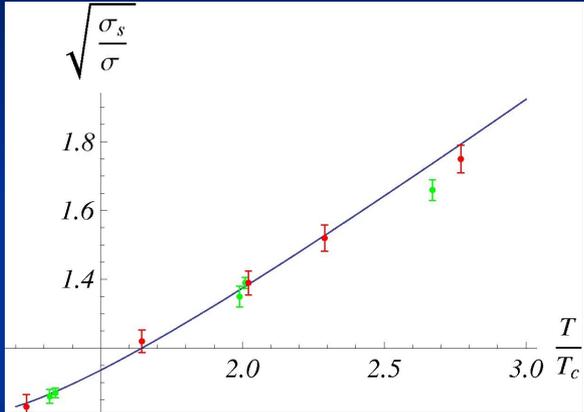
arXiv: 0706.0213 (with S. Gubser and S. Pufu)

arXiv: 0709.1089 (with S. Gubser)

String theory
(in it's various reincarnations)

AdS/CFT ?

QCD



Oleg Andreev

Contribution:

Thermodynamic properties of pure SU(N) glue via string formulation

arXiv: 0706.3120
hep-ph/0703010 (with V.I. Zakharov)

I've shown only a small fraction,... but time is over :(