Abstract Confusion leading towards Standard Model

H.B. Nielsen(Copenhagen), Astri Kleppe ...

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<u>H.B. Nielsen</u> *presents the talk.*

Continuing the Old Idea of Confusion in Gauge Glass

Inspired by Random Dynamics we worked in the old times much on the idea of confusion:

In a very complicated theory with an irregular glassy lattice it is easy to get e.g. (lattice) gauge thory varibles glued together in a way that is flipped corresponding to some symmetry. Such flipped - mistaken one could say - gluings together may spoil the theory, say the gauge symmetry of the theory, thus modifying it. A theory for which such a spoiling happens cannot surviving living in the glassy lattice. This tells us that:

In the glassy cicumstances symmetry is dangerous for the theory!

Abstract Confusion towards Standard Model

The idea of the present work is to:

- **Formulate the idea of confusion in so abstract terms, that it has a good chance of being true some way or another under very mild assumptions**

- **Consider all the possible symmetries of the considered theory/model** and not only the automorphisms of the gauge group as we tended to only consider in the old days.

- **Derive consequences not only for the gauge group but also for the whole model,** such as e.g. the number of families. We conclude it must be larger than or equal to three.

📄 Multicoloured Random Graphs: The Random Dynamics
Program Sam Tarzi London, England
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