

Exploring SU(3)-Higgs theories

Elizabeth Dobson,* Axel Maas* and Bernd Riederer*

Institute of Physics, NAWI Graz, University of Graz,

Universitätsplatz 5, Graz, Austria

*E-mail: elizabeth.dobson@uni-graz.at, axel.maas@uni-graz.at,
bernd.riederer@uni-graz.at*

The requirement of manifest gauge invariance leads to a conflict between perturbative and non-perturbative predictions for the low-energy spectra of grand-unified theories. These conflicts already emerge in simplified prototype models of SU(3) gauge theories with Higgs fields in different representations. We expand earlier lattice investigations on this subject and provide further support for the predicted deviations. These can be understood in terms of the Fröhlich-Morchio-Strocchi mechanism.

*The 38th International Symposium on Lattice Field Theory, LATTICE2021 26th-30th July, 2021
Zoom/Gather@Massachusetts Institute of Technology*

*Speaker

Combined Proceedings for the talks “Exploring SU(3) + Higgs theories: the fundamental case” and “Exploring SU(3) + Higgs theories - The adjoint case”; full paper in **PoS(LATTICE2021)207**