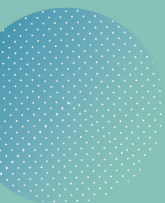




INSTITUTO DE FÍSICA  
DE PARTÍCULAS Y DEL COSMOS

IPARCOS



Preprint Series in Particles and Cosmos Physics

n° IPARCOS-UCM-24-009

# Redefining Higgs interactions at the TeV scale

by R. L. Delgado, et al. (including J.J. Sanz-Cillero)

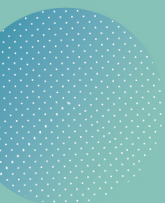
**February 2024**

Plaza de las Ciencias, 1 28040 Madrid, Spain

[www.ucm.es/iparcos/](http://www.ucm.es/iparcos/)



UNIVERSIDAD  
**COMPLUTENSE**  
MADRID



## Abstract

We present a field redefinition that simplifies the Higgs Effective Field Theory Lagrangian for the Electroweak Symmetry Breaking Sector. This simplification produces the same on-shell scattering amplitudes while greatly reducing the number of contributing Feynman diagrams for  $ww \rightarrow n \times h$  processes (which approximate the  $WLWL \rightarrow n \times h$  amplitudes at the TeV scale by means of the Equivalence Theorem).

