



Contribution ID: 5

Type: **not specified**

Axion-Photon Coupling Distributions for Non-Minimal DFSZ-type Axion Models

Monday, 3 July 2023 17:53 (3 minutes)

We present a first combined theory prediction for the distribution of axion-photon couplings for non-minimal DFSZ and KSVZ models. Couplings of DFSZ models with more than one additional Higgs doublet are comparable to the non-minimal KSVZ literature values. They extend over a large range of parameters, reaching values up to almost three orders of magnitude larger than the ones observed in minimal models. The distributions of both DFSZ- and KSVZ-types of models display similar, very specific patterns. For the subset of DFSZ models with domain wall number of unity we find significantly enhanced axion-photon couplings. Our findings are relevant for axion searches like haloscopes, helioscopes, or light-shining-through-a-wall experiments.

Primary authors: DIEHL, Johannes (Max Planck Institut for Physics); Mr KOUTSANGELAS, Emmanouil (Max Planck Institute for Physics)

Presenter: DIEHL, Johannes (Max Planck Institut for Physics)

Session Classification: Poster Session