

Public repository for limits on SMEFT Wilson coefficients

smeftbounds.github.io

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Purpose :

- There are **2499** SMEFT dimension-six Wilson coefficients (WCs) in Warsaw basis.
- Literature reveal limits on many of these WCs. (Global fit, individual WCs, ...)
- It is desirable to have an up-to-date catalogue of these limits.
 - Comparison, quick reference to strictest limits.
 - Look at the most sensitive processes.
 - Estimate available room for BSM parameters.

The template :

- **Feeding the dataset**
- **template.json available in the [Github repo](#).**
- **Users submit limits in a .json file in the given format (or use HepData?)**
- **The repository auto-updates with the limits. The WCs reflect it accordingly.**

```
1 {
2   "observable_name": "global_fit_2021_Anisha_et_al",
3   "arxiv": "2111.05876",
4   "reportnumber": "CERN-TH-2021-190, IPPP/21/48",
5   "DOI": "https://journals.aps.org/prd/abstract/10.1103/PhysRevD.107.055028",
6   "date": "2020/05/11",
7   "experiment": "LEP, Tevatron, CERN LHC Run I+II",
8   "description": "Individual global fit limits from Tab. 24 of Effective limits on
9     single scalar extensions in the light of recent LHC data",
10  "CL": "95%",
11  "limits": {
12    "CHWB": [ -0.0035, 0.0028 ],
13    "CHD": [ -0.022, 0.0042 ],
14    "Cl1[1,2,2,1]": [ -0.006, 0.016 ],
15    "CH11": [ -0.005, 0.012 ],
16    "CH13": [ -0.010, 0.003 ],
17    "CHe": [ -0.013, 0.008 ],
18    "CHq1": [ -0.023, 0.047 ],
19    "CHq3": [ -0.008, 0.016 ],
20    "CHd": [ -0.15, 0.04 ],
21    "CHu": [ -0.056, 0.081 ],
22    "CH": [ -9.6, 6.9 ],
23    "CHbox": [ -0.96, -0.13 ],
24    "CHG": [ -0.038, -0.002 ],
25    "CHW": [ -0.010, 0.05 ],
26    "CHB": [ -0.0031, 0.0016 ],
27    "CW": [ -0.17, 0.34 ],
28    "CG": [ -0.8, 1.2 ],
29    "CeH[2,2]": [ -0.042, 0.0027 ],
30    "CeH[3,3]": [ -0.004, 0.028 ],
31    "CdH[3,3]": [ -0.036, 0.004 ],
32    "CuH[2,2]": [ -0.15, -0.01 ],
33    "CuH[3,3]": [ 0.02, 1.2 ],
34    "CuG[3,3]": [ -0.11, -0.01 ]
35  }
36 }
```

Thank you!