

1.

In[]:= Quit[]

In[1]:= << SOLD`

SMEFT One Loop Dictionary loaded

Version: 2.0.1

Authors: Guilherme Guedes, Pablo Olgoso, José Santiago

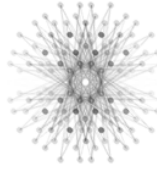
Webpage: <https://gitlab.com/jsantiago.ugr/sold>

Reference: - SciPost Phys. 15 (2023) 143 arXiv:2303.16965

- arXiv:2412.14253



You are currently up to date.



XXXXXXXXXXXXXXXXXXXXXXXXXXXX GroupMath XXXXXXXXXXXXXXXXXXXXXXXXXXXX
Version: 1.1.3 (19/December/2024)
Author: Renato Fonseca
Reference: Comput. Phys. Commun. 267 (2021), 2011.01764 [hep-th]
Website: renatofonseca.net/groupmath
Built-in documentation: [here](#)
XXXXXXXXXXXXXXXXXXXXXXXXXXXX

In[2]:= ListOperators[{Sa -> {3, 1, -1/3}}, True]

kernel 4 (Local)

PreDecrement: 2 is not a variable with a value, so its value cannot be changed. ⓘ

kernel 4 (Local)

PreDecrement: --2 is not a variable with a value, so its value cannot be changed. ⓘ

kernel 4 (Local)

PreDecrement: ----2 is not a variable with a value, so its value cannot be changed. ⓘ

kernel 4 (Local)

General: Further output of PreDecrement::rvalue will be suppressed during this calculation. ⓘ

kernel 2 (Local)

PreDecrement: 2 is not a variable with a value, so its value cannot be changed. ⓘ

kernel 2 (Local)

PreDecrement: --2 is not a variable with a value, so its value cannot be changed. ⓘ

During evaluation of In[2]:=

General: Further output of PreDecrement::rvalue will be suppressed during this calculation. ⓘ

kernel 2 (Local)

General: Further output of PreDecrement::rvalue will be suppressed during this calculation. ⓘ

kernel 8 (Local)

General: Further output of PreDecrement::rvalue will be suppressed during this calculation. ⓘ

Out[2]=

Name	Tree	Loop
O _{3G}		✓
O _{3Gt}		
O _{3W}		
O _{3Wt}		
O _{HB}		
O _{HBt}		
O _{HG}		✓
O _{HGt}		
O _{HW}		
O _{HWB}		
O _{HWBt}		
O _{HWt}		
O _{dB}		
O _{dG}		✓
O _{dW}		
O _{eB}		
O _{eW}		
O _{uB}		
O _{uG}		✓
O _{uW}		

Name	Tree	Loop
O _{HBox}		✓
O _{HD}		✓
O _{lambda}	✓	✓
O _{muH2}		✓
O _{dd}		✓
O _{dH}		✓
O _{ed}		✓
O _{ee}		✓
O _{eH}		✓
O _{eu}	✓	✓
O _{Hd}		✓
O _{He}		✓
O _{H11}		✓
O _{H13}		✓
O _{Hq1}		✓
O _{Hq3}		✓
O _{Hu}		✓
O _{Hud}		✓
O _{lambdad}		✓
O _{lambdae}		✓

Name	Tree	Loop
O _{lambdau}		
O _{ld}		✓
O _{le}		✓
O _{ledq}		✓
O _{lequ1}	✓	✓
O _{ll}		✓
O _{lq1}	✓	✓
O _{lq3}	✓	✓
O _{lu}		✓
O _{qd1}		✓
O _{qd8}		✓
O _{qe}		✓
O _{qq1}	✓	✓
O _{qq3}	✓	✓
O _{qu1}		✓
O _{qu8}		✓
O _{quqd1}	✓	✓
O _{quqd8}	✓	✓
O _{ud1}	✓	✓
O _{ud8}	✓	✓
O _{uH}		✓
O _{uu}		✓

2.

```
In[3]:= ListModelsWarsaw[alphaOuG[i, j]]
Out[3]//MatrixForm=
Field Content
{ϕ1}
SU(3) ⊗ SU(2)
{ϕ1 → 3 ⊗ 1}
U(1)
{Yϕ1 → 1/3}
```

```
In[3]:= ListOperators[{Sa → {-3, 1, 1/3}}]
kernel 5 (Local)
PreDecrement: 2 is not a variable with a value, so its value cannot be changed.
kernel 5 (Local)
PreDecrement: --2 is not a variable with a value, so its value cannot be changed.
kernel 5 (Local)
PreDecrement: ---2 is not a variable with a value, so its value cannot be changed.
kernel 5 (Local)
General: Further output of PreDecrement::rvalue will be suppressed during this calculation.
kernel 3 (Local)
PreDecrement: 2 is not a variable with a value, so its value cannot be changed.
kernel 3 (Local)
PreDecrement: --2 is not a variable with a value, so its value cannot be changed.
General: Further output of PreDecrement::rvalue will be suppressed during this calculation.
kernel 3 (Local)
General: Further output of PreDecrement::rvalue will be suppressed during this calculation.
kernel 8 (Local)
General: Further output of PreDecrement::rvalue will be suppressed during this calculation.
```

Name	Tree	Loop	Name	Tree	Loop	Name	Tree	Loop
O _{3G}			O _{HBox}		✓	O _{lambdau}		
O _{3Gt}			O _{HD}		✓	O _{ld}		
O _{3W}			O _{lambda}	✓	✓	O _{le}		
O _{3Wt}			O _{muH2}		✓	O _{ledq}		
O _{HB}			O _{dd}			O _{lequ1}	✓	
O _{HBT}			O _{dH}		✓	O _{ll}		
O _{HG}			O _{ed}			O _{lq1}	✓	
O _{HGt}			O _{ee}			O _{lq3}	✓	
O _{HW}			O _{eH}		✓	O _{lu}		
O _{HWB}			O _{eu}	✓		O _{qd1}		
O _{HWBt}			O _{hd}			O _{qd8}		
O _{HWt}			O _{He}			O _{qe}		
O _{dB}			O _{Hl1}			O _{qq1}	✓	
O _{dG}			O _{Hl3}			O _{qq3}	✓	
O _{dW}			O _{Hq1}			O _{qu1}		
O _{eB}			O _{Hq3}			O _{qu8}		
O _{eW}			O _{Hu}			O _{quqd1}	✓	
O _{uB}			O _{Hud}			O _{quqd8}	✓	
O _{uG}			O _{lambdad}			O _{ud1}	✓	
O _{uW}			O _{lambdae}			O _{ud8}	✓	
						O _{uH}		✓
						O _{uu}		