

ZHH Analysis.

Toy model

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HELMHOLTZ



Fit model

$$\text{Template} = f_1 \cdot \text{hist}_{ZHH} + f_2 \cdot \text{hist}_{WBF} + \sqrt{4 * f_1 * f_2} \cdot \text{hist}_{int}$$

Fit model: 2D LLH

$$LLH = \sum_i \sum_j \text{Log}(\text{Poisson}(\text{data}_{i,j}, \text{temp}_{i,j}))$$

Toy model:

- 1000 models using TRandom1 (bugs with TRandom2 and TRandom3)
- for each bin drawing a random Poisson-distributed value with expectation value from SM-data
- factors and errors from averaging over the 1000 models

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Fit model: 2D LLH

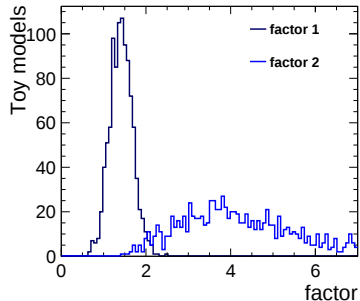
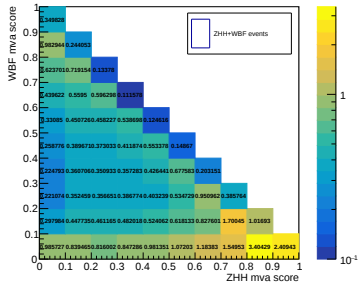
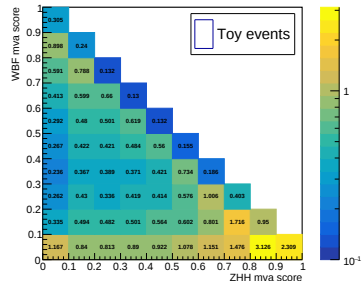
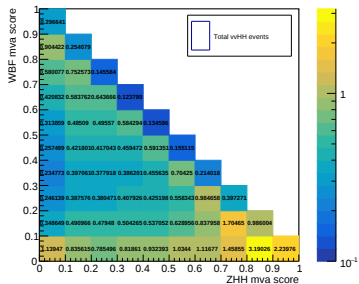
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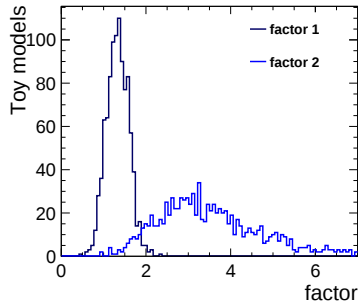
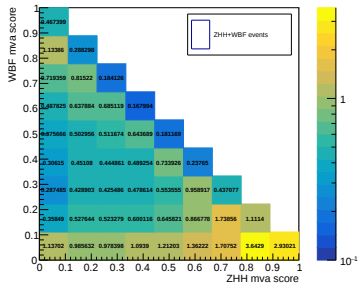
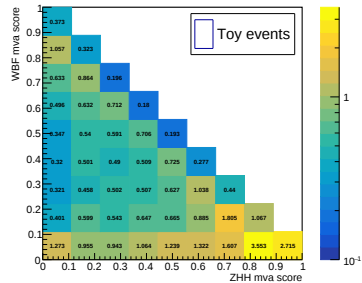
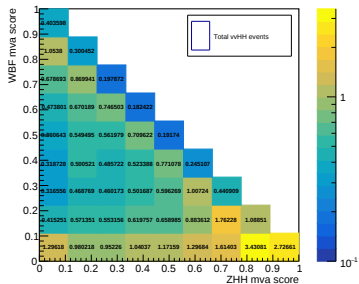
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	binning	factor1	factor2
Results:	3x3	1.0182 $\pm$ 0.312018	1.15869 $\pm$ 1.11422
	4x4	1.03003 $\pm$ 0.315164	1.27081 $\pm$ 1.17047
	5x5	1.05982 $\pm$ 0.329272	1.54783 $\pm$ 1.31086
	6x6	1.08903 $\pm$ 0.347162	1.95753 $\pm$ 1.5592
	7x7	1.15183 $\pm$ 0.374439	2.48678 $\pm$ 1.85116
	8x8	1.24319 $\pm$ 0.408475	2.9829 $\pm$ 2.14036
	9x9	1.33204 $\pm$ 0.446037	3.67395 $\pm$ 2.53625
	10x10	1.41459 $\pm$ 0.481987	4.4287 $\pm$ 2.90175

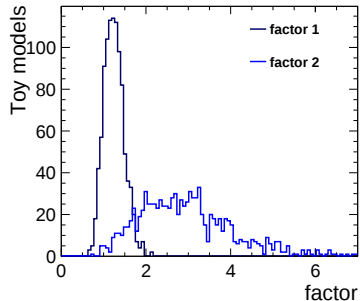
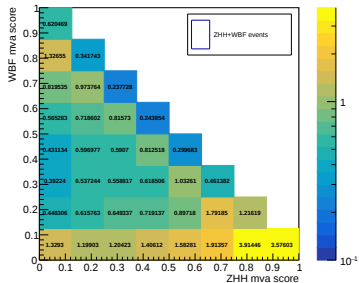
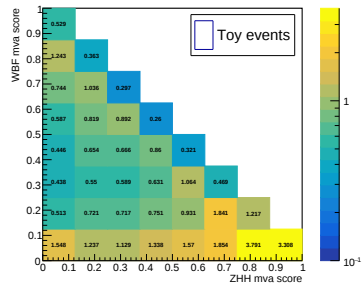
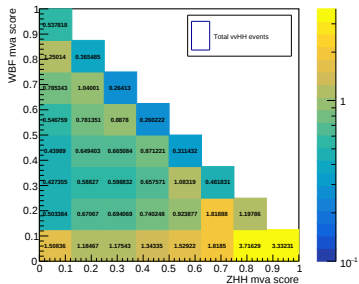
10x10 bins



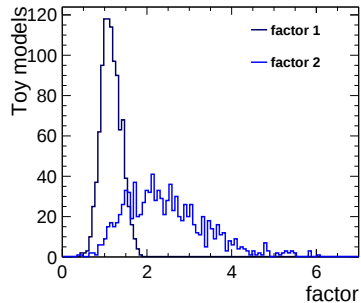
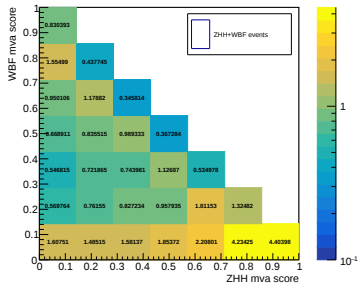
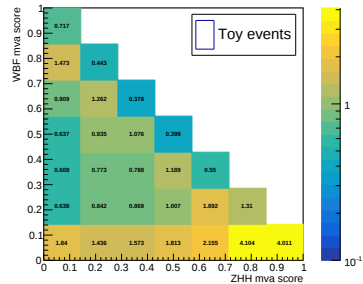
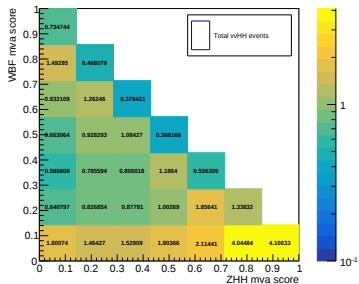
9x9 bins



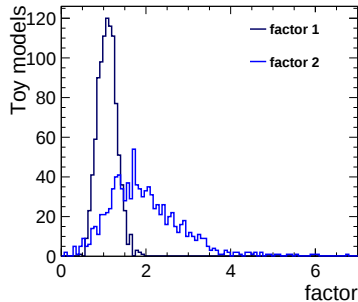
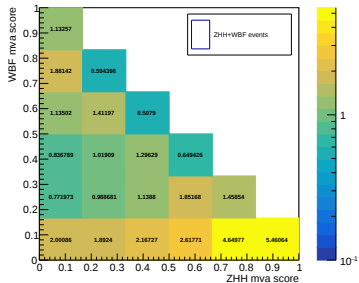
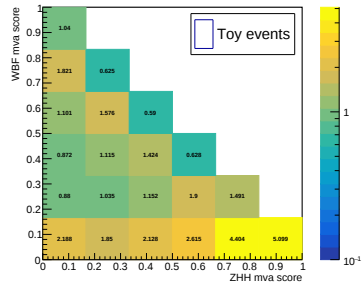
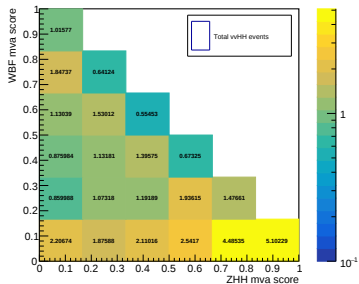
8x8 bins



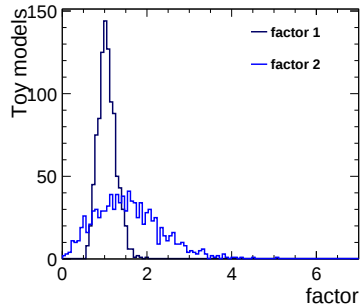
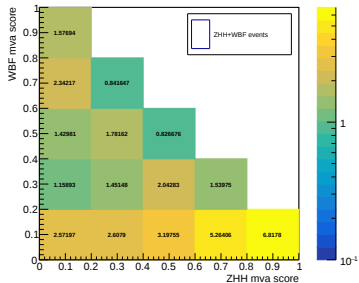
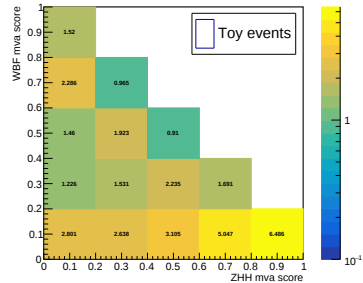
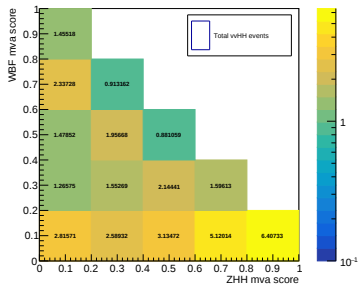
7x7 bins



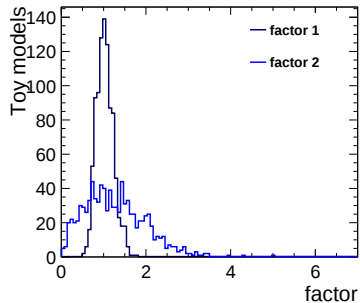
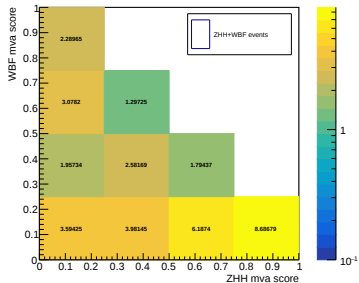
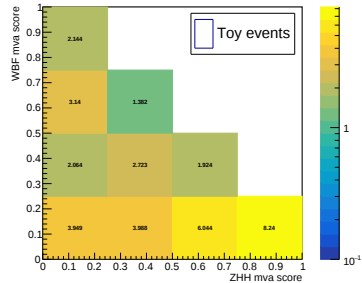
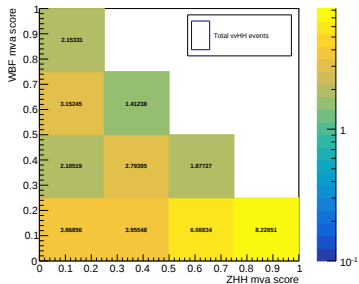
6x6 bins



5x5 bins



4x4 bins



3x3 bins

