Minimally Supersymmetric

- MSSM = Minimal Supersymmetric Standard Model.

- Gives solution to hierarchy problem but at low energies appears similar to SM.

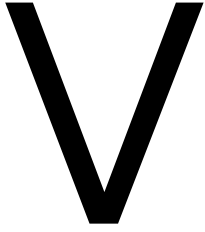
- But has a term which is not very natural, involves setting *by hand* parameters which are **not** dimensionless…

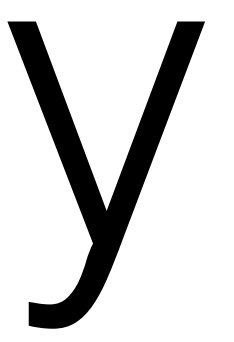
3

$$W_{MSSM} = \text{Yukawa couplings } (q, l^+, l^- \text{ masses})$$
$$+ \mu H_u H_d + ...$$

Minimally Supersymmetric

(Almost)





- Gives solution to hierarchy problem but at low energies appears similar to SM.

Minimal Supersymmetric Standard Model.

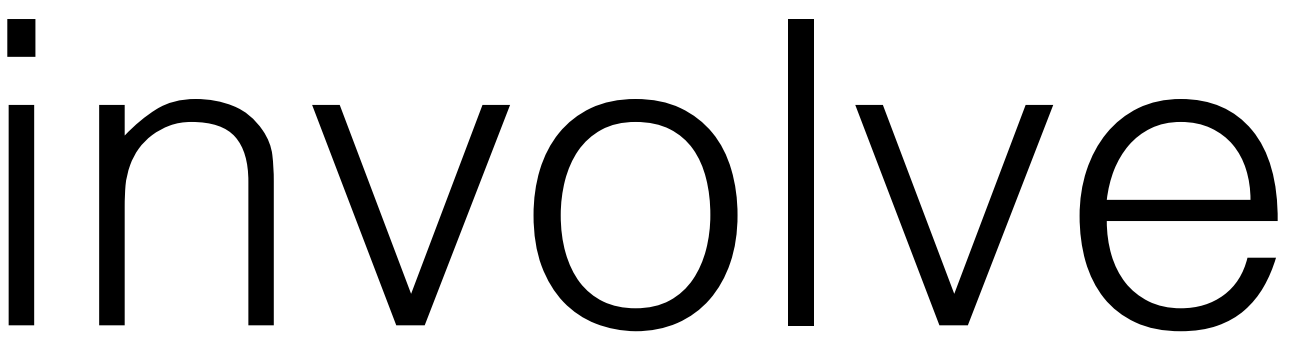
- But has a term which is

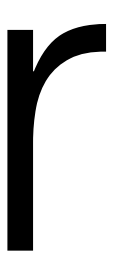
parameters

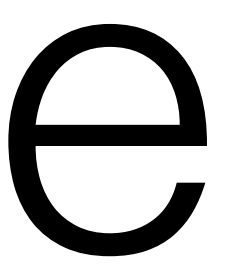
setting *by hand*

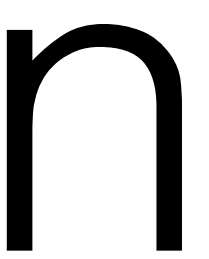
- MSSM =

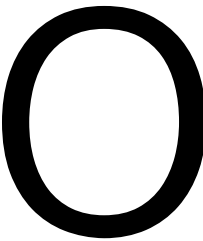
natural,

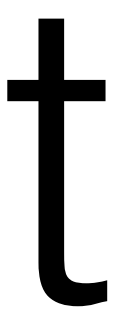

involve

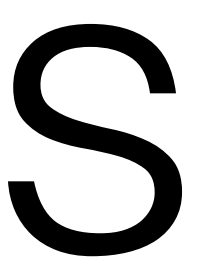


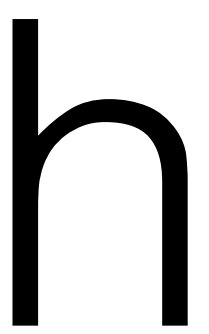


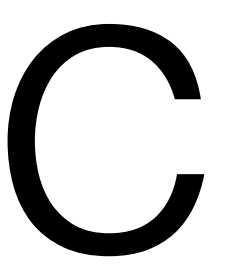








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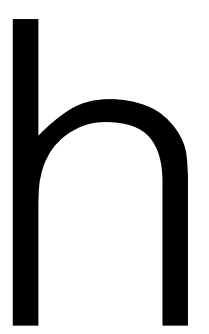

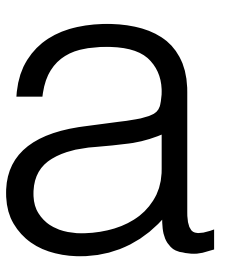

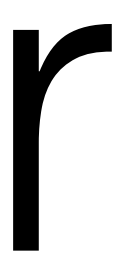

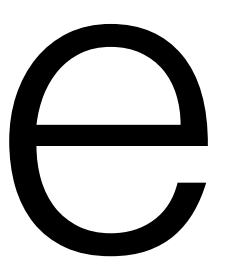

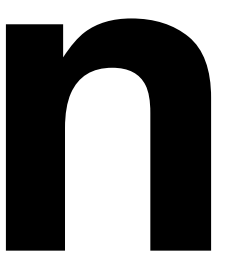

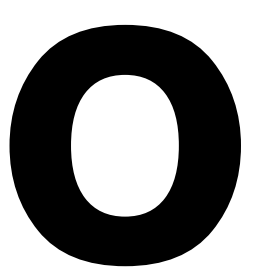

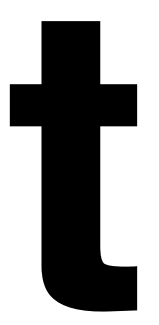

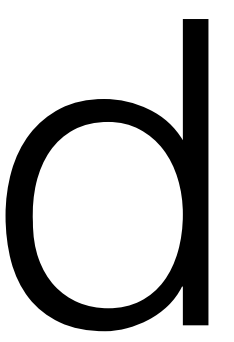

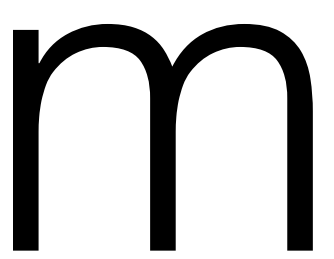

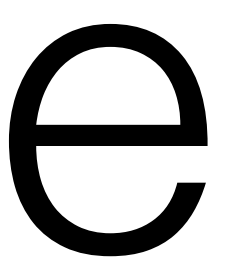

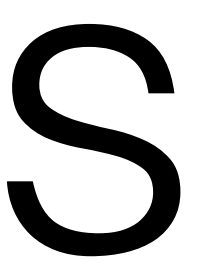

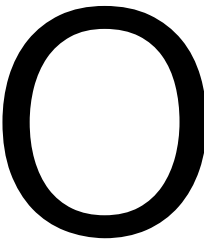

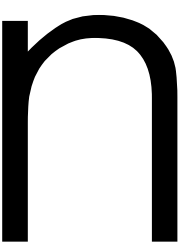

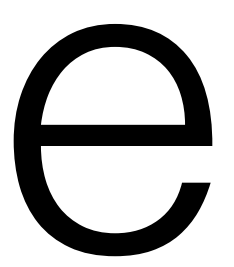

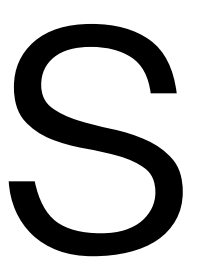

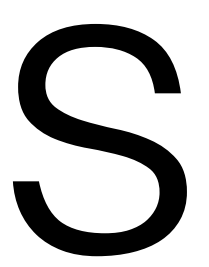

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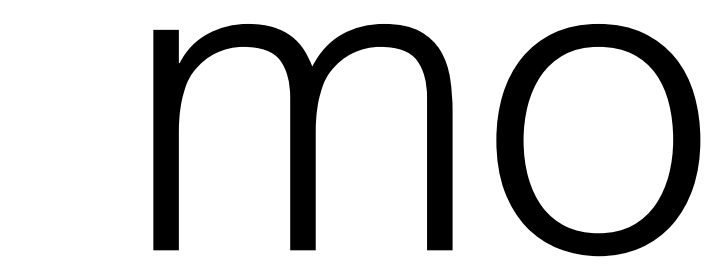

mo

Next to

$$W_{NMSSM} = \text{Yukawa couplings } (q, l^+, l^- \text{ masses})$$
$$+ \lambda \hat{S} \hat{H}_u \hat{H}_d + \frac{1}{3} \kappa \hat{S}^3 + \ldots$$

Minimally Supersymmetric

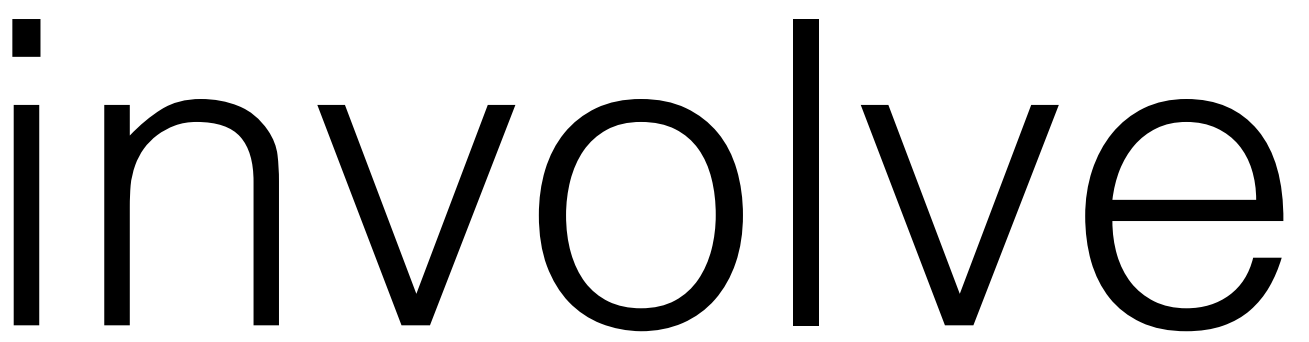
Minimal Supersymmetric Standard Model.

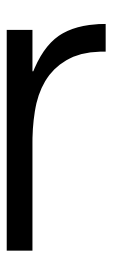
parameters

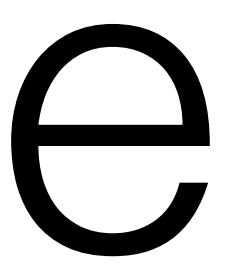
setting *by hand*

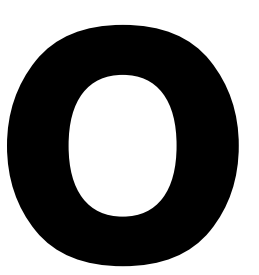
MSSM =

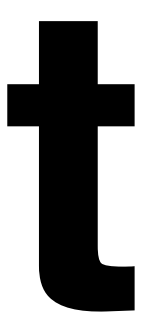
natural,

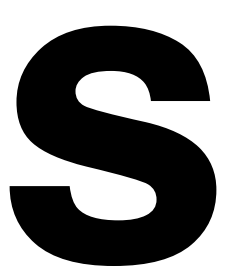

involve

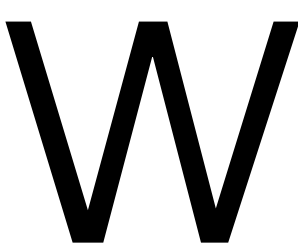


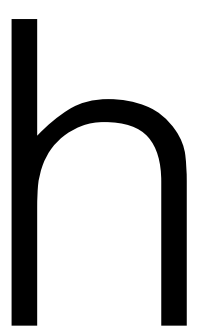


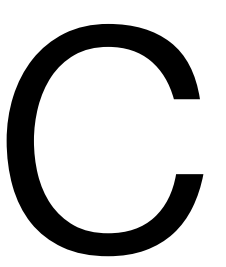








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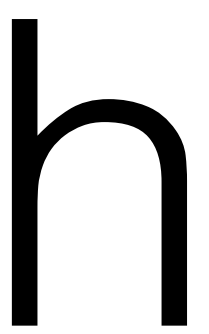

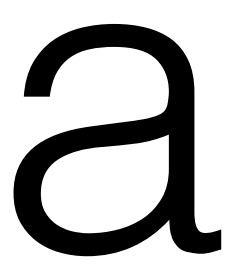

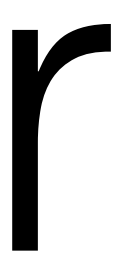

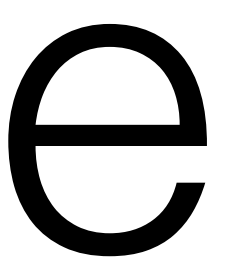

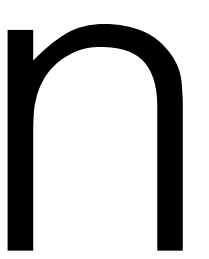

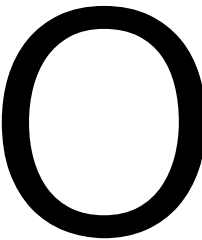

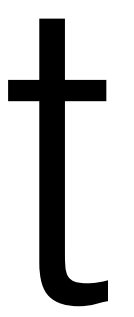
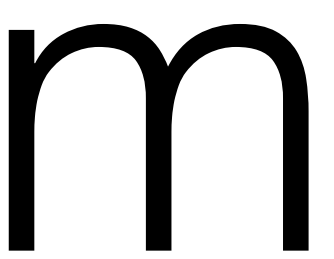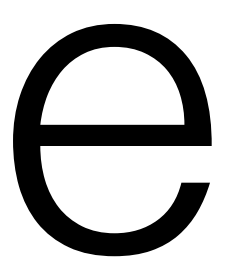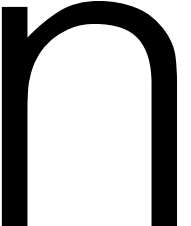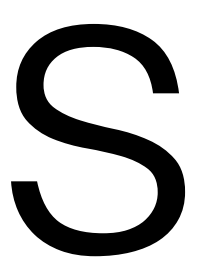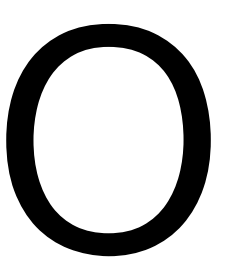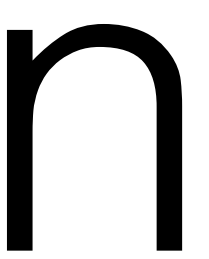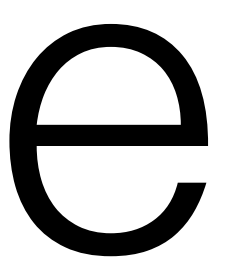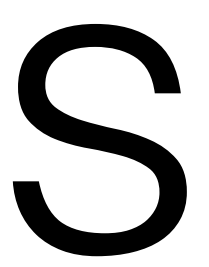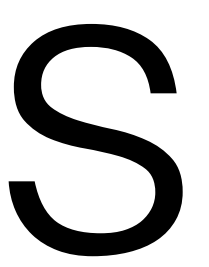
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