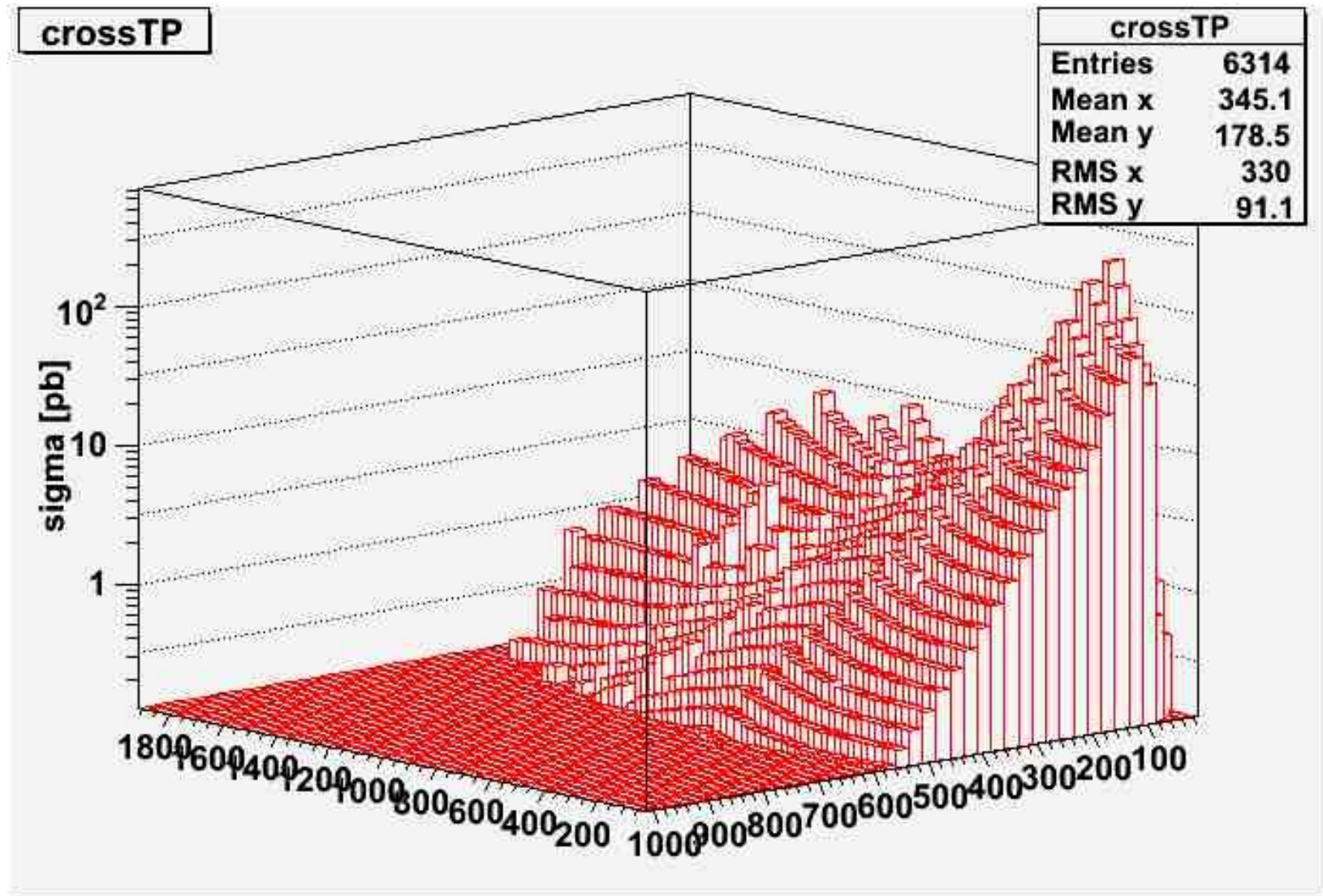


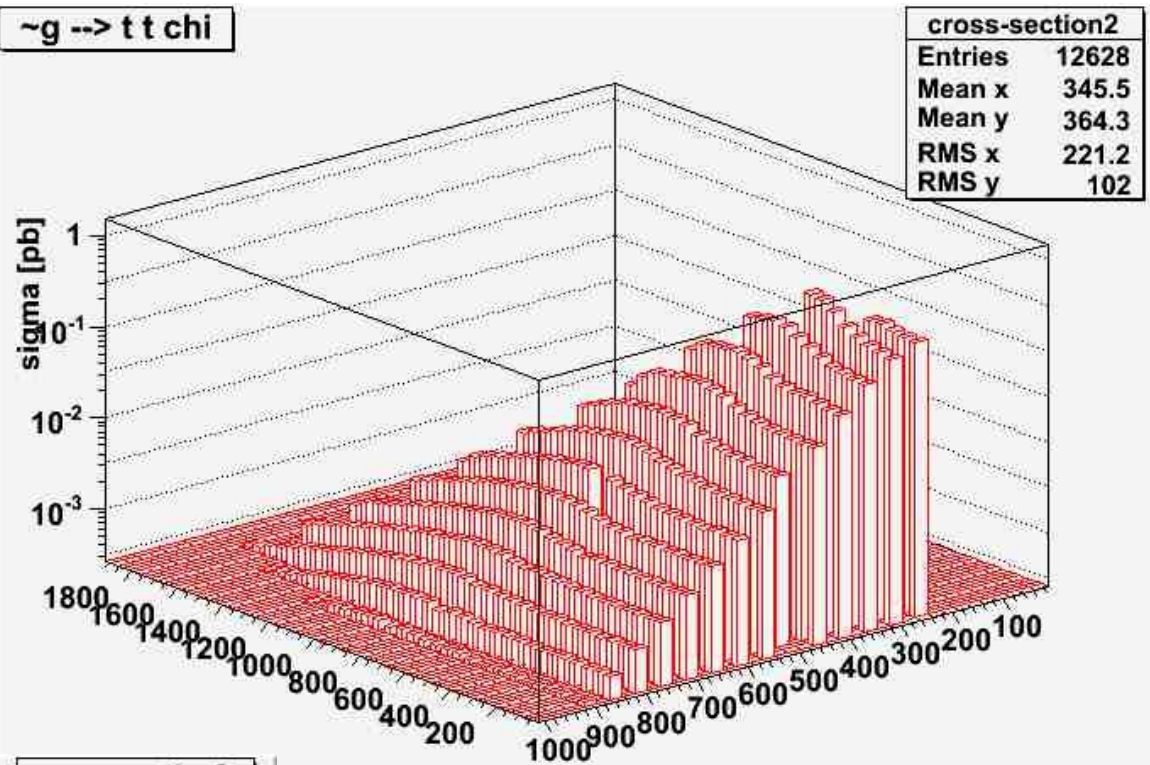
Suche nach SUSY in $t\bar{t}$ - Endzuständen

- Top-Quark-Produktion in
mSUGRA
- mSUGRA LM1
- MRSSM

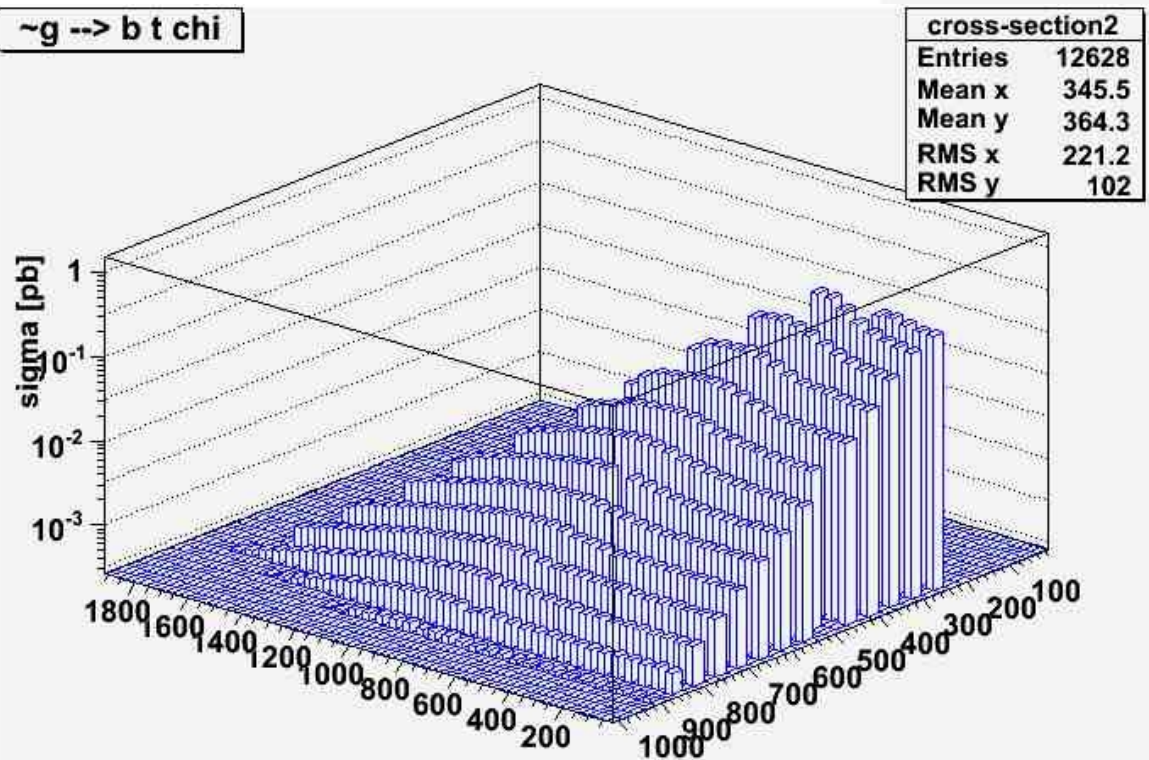
Top-Quark-Produktion in mSUGRA

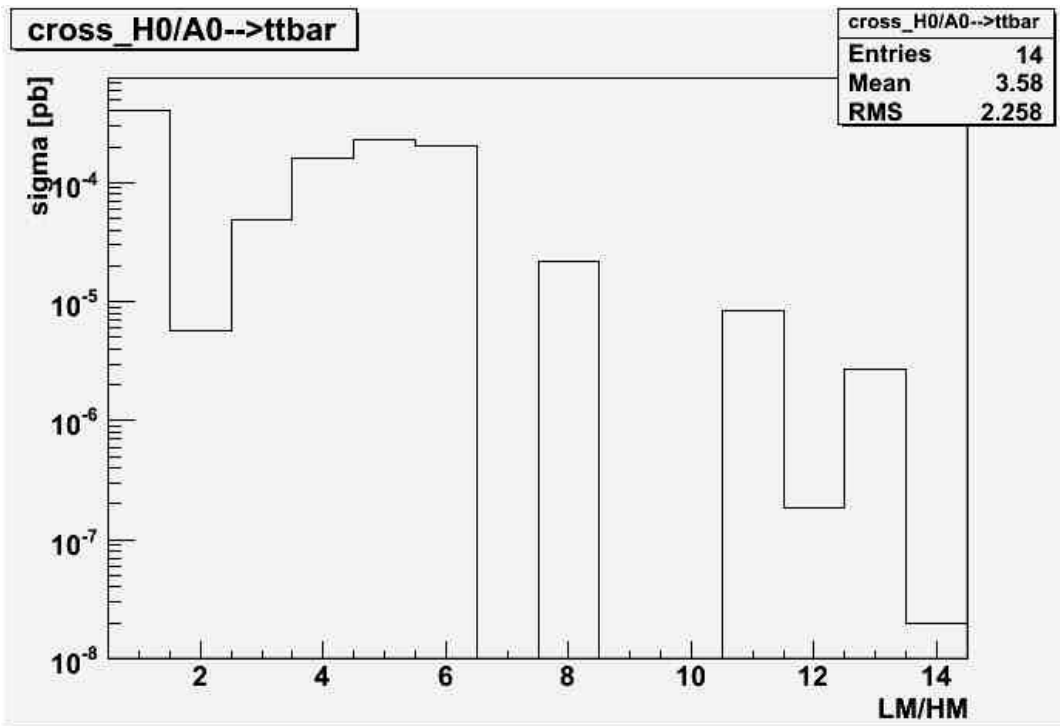
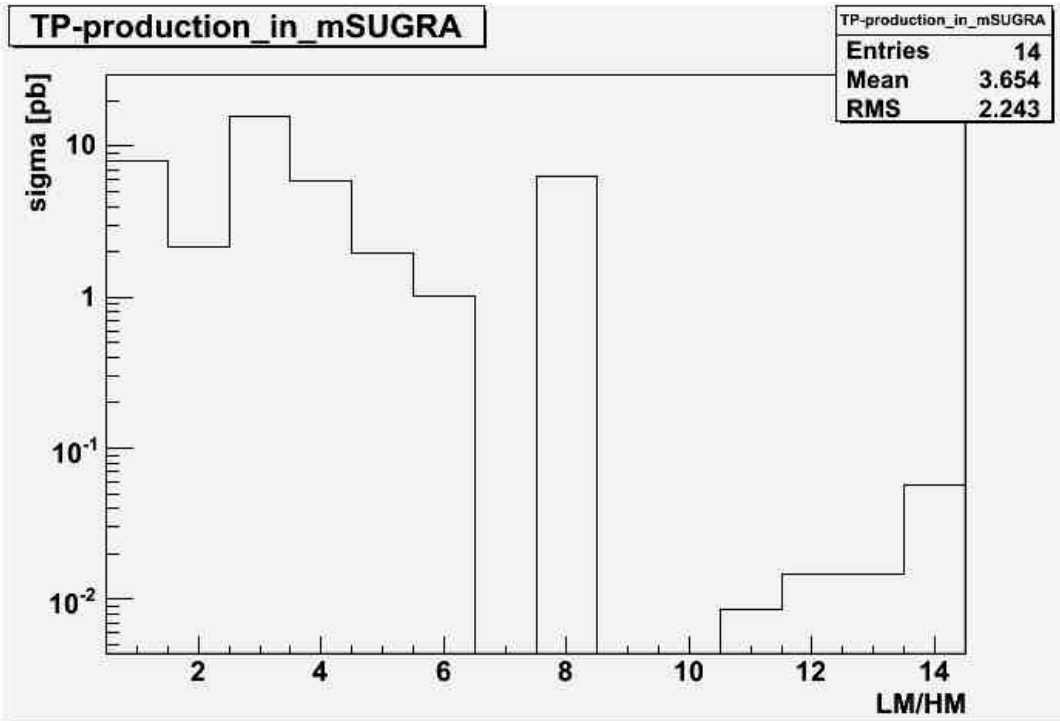


$\sim g \rightarrow t t \chi$



$\sim g \rightarrow b t \chi$





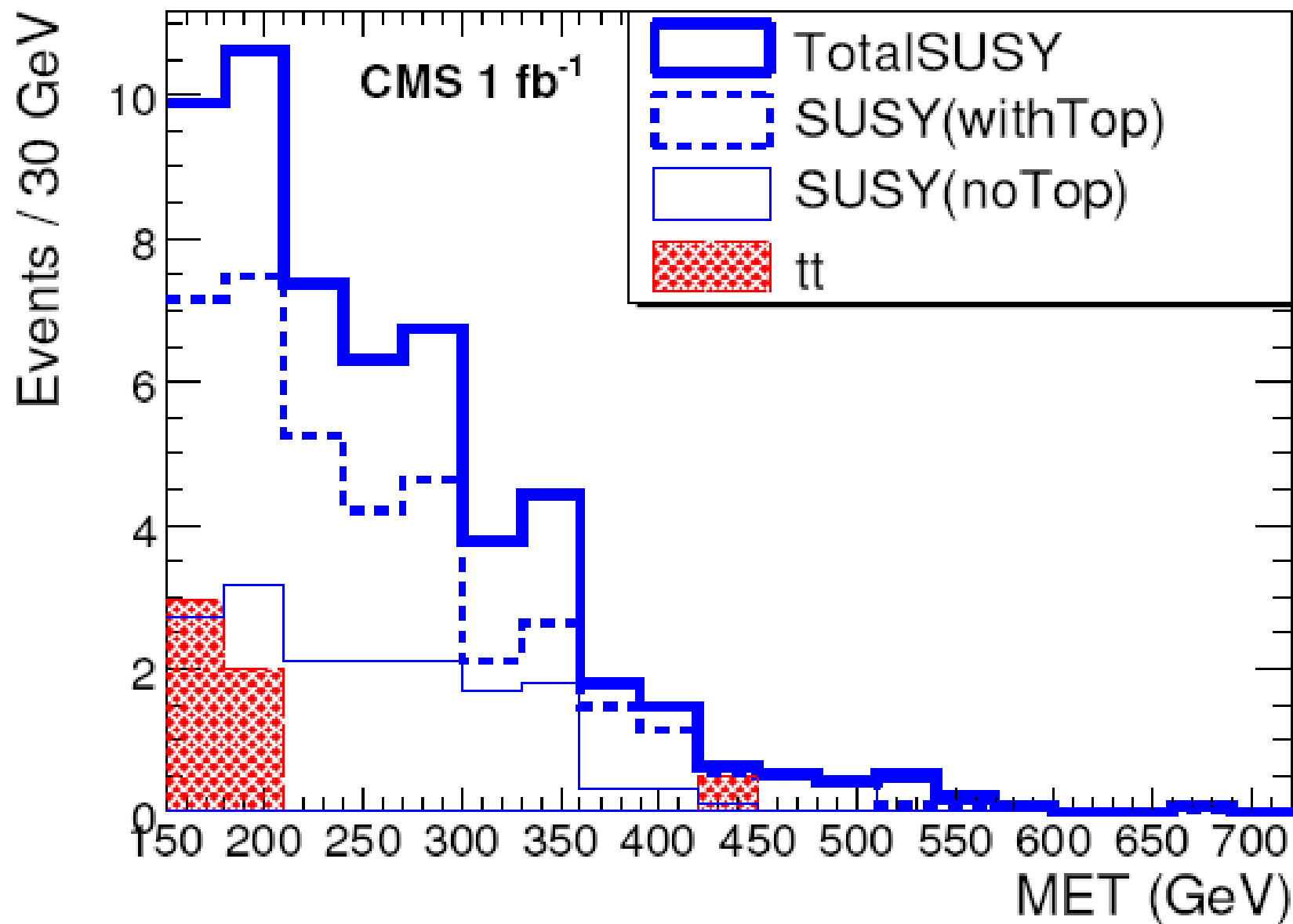
mSUGRA LM1

- LM1:

- $m_0 = 60 \text{ GeV}$
- $m_{1/2} = 250 \text{ GeV}$
- $\tan \beta = 10$
- $A_0 = 0$
- $\text{sgn } \mu = 1$

- Cuts:

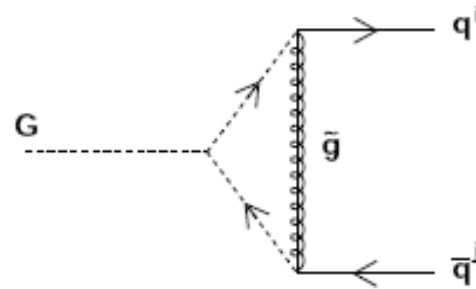
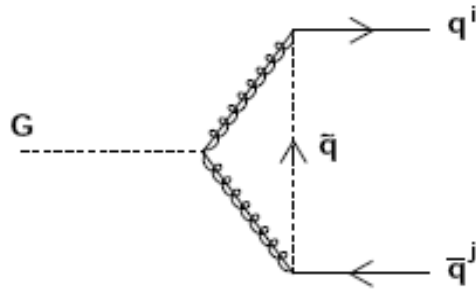
- $\text{MET} > 150 \text{ GeV}$
- b-jets: $n \geq 1$
- jets: $n \geq 4$
- convergent fit with $X^2 > 0.1$
- $\Delta\Phi < 2.6 \text{ rad}$



MRSSM

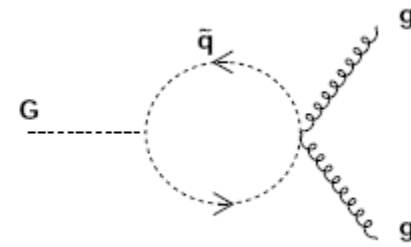
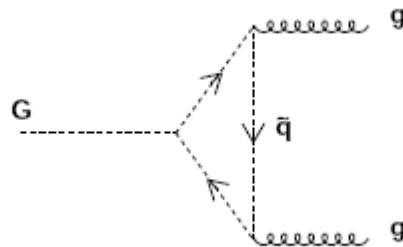
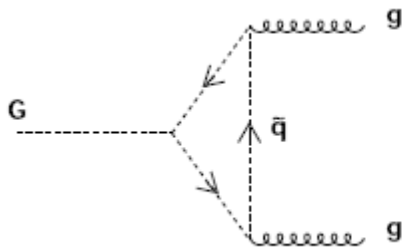
- kontinuierliche R-Symmetrie
- gluinos (gauginos) werden durch Dirac-Spinoren beschrieben
- skalare Gluonen/ sgluons (G)
- Zusätzliche Kopplungen:
 - $G - G - g - g$, $G - G - g$
 - $G - \tilde{g} - \tilde{g}$, $G - \tilde{g} - \tilde{q}$

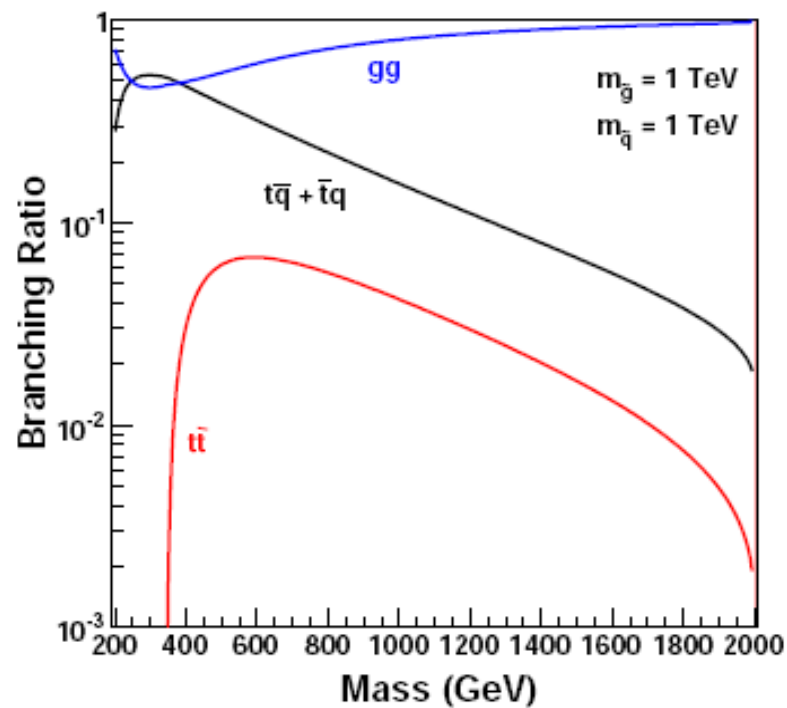
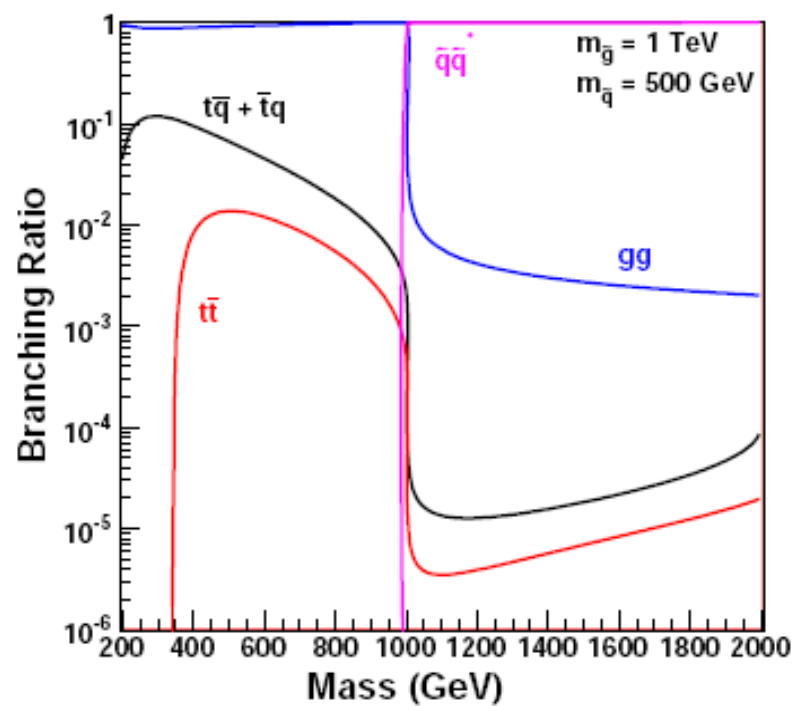
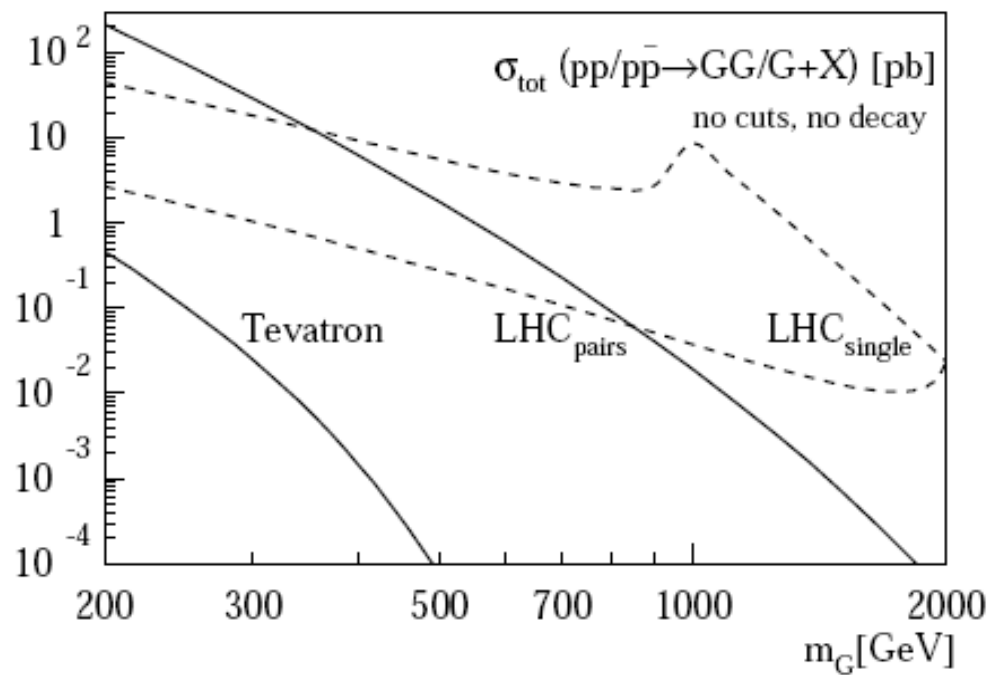
- Kopplungen mit Quarks:



$$\sim (m_i f_{q,i} - m_j f_{q,j})$$

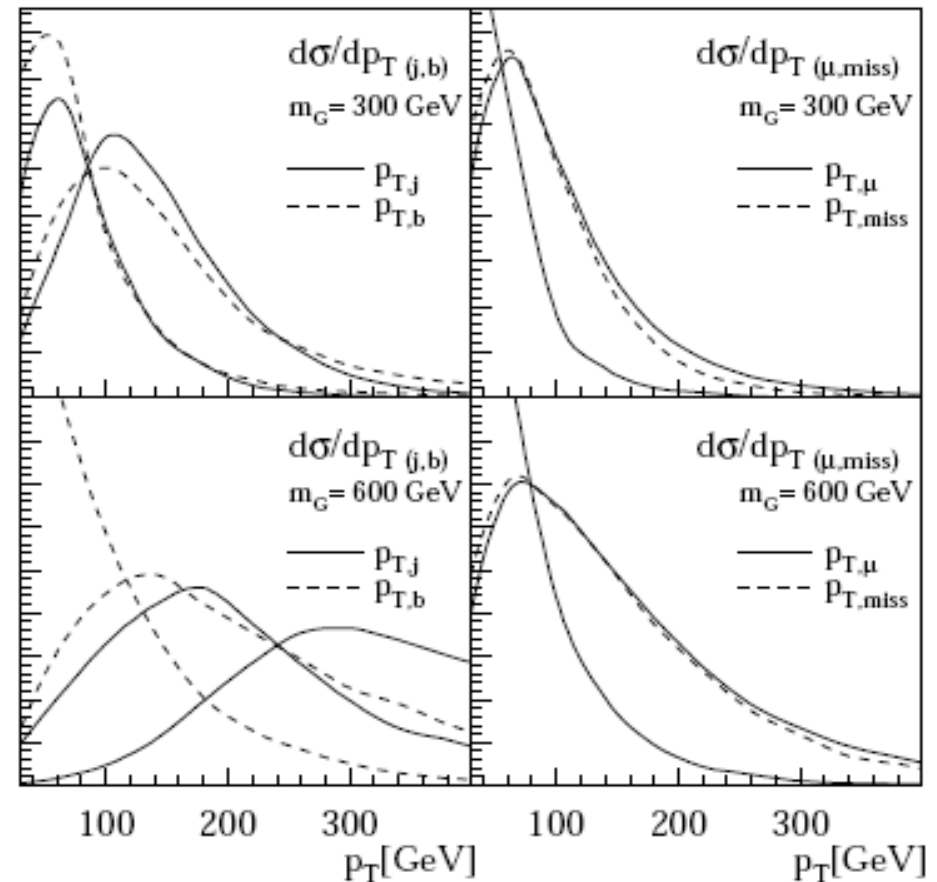
- $G - g - g$ - Kopplung:





- Sgluon-Paar-Analyse im di-leptonischen Zerfallskanal fuer $m_G = 300$ (600) GeV:

- andere Form der p_T - Verteilung fuer Leptonen und Jets im MRSSM als im SM



- Anzahl der zusaetzlichen jets: $N_{\text{MRSSM}} > N_{\text{SM}}$