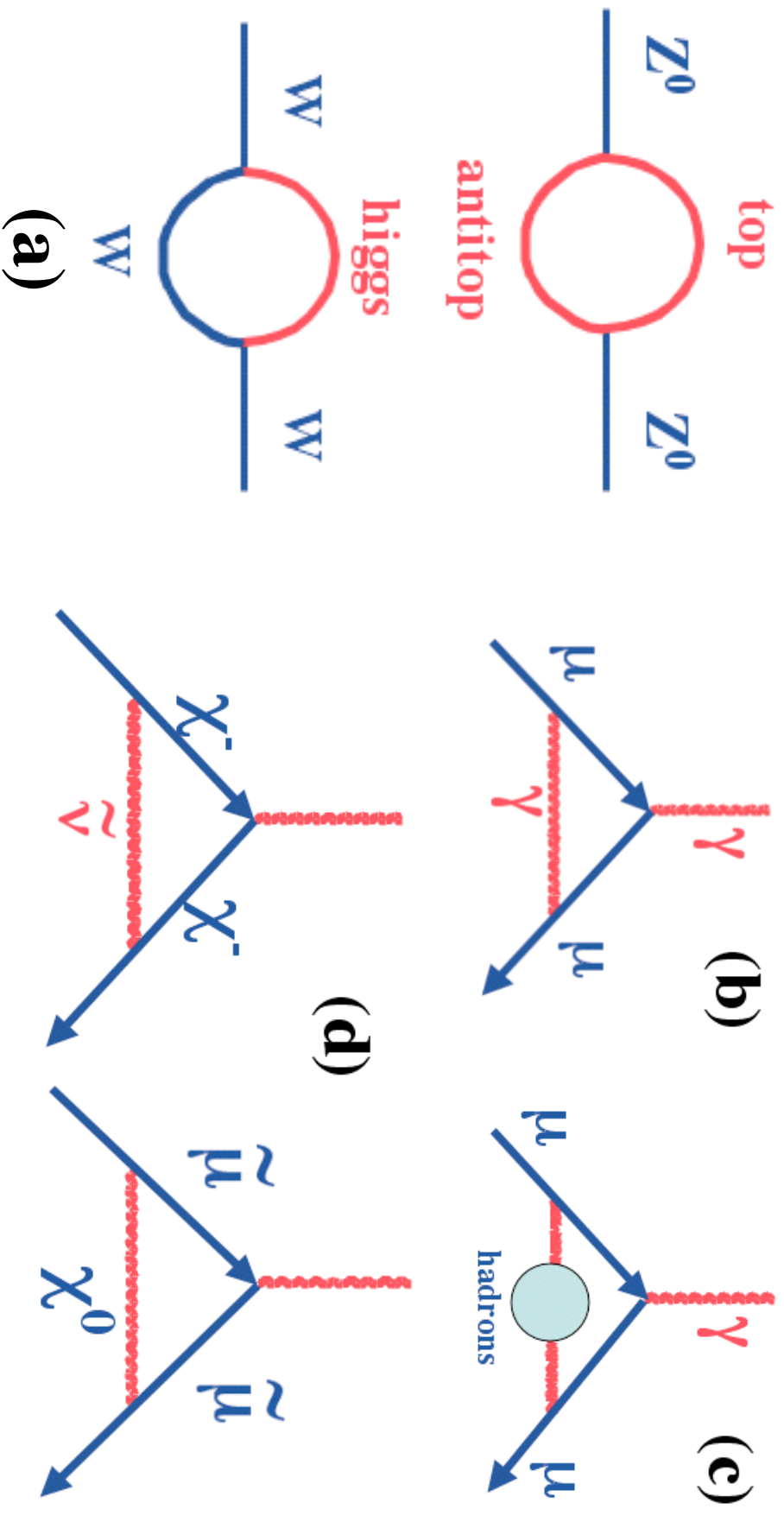


**Figure 1:**

**Left: the scenery of  $e^+e^-$  collisions as a function of energy.**

**LEP1 was “sitting” on the huge  $Z^0$  resonance (courtesy U.Amaldi).**

**Right: a four jet event.**



**Figure 2: some relevant loop diagrams**

- (a) SM diagrams contributing to the EW bosons masses
- (b) the main contribution to  $g-2$  of the muon
- (c) the hadronic correction to  $g-2$  of the muon
- (d) Possible SUSY contributions to  $g-2$  of the muon

From C. Quigg

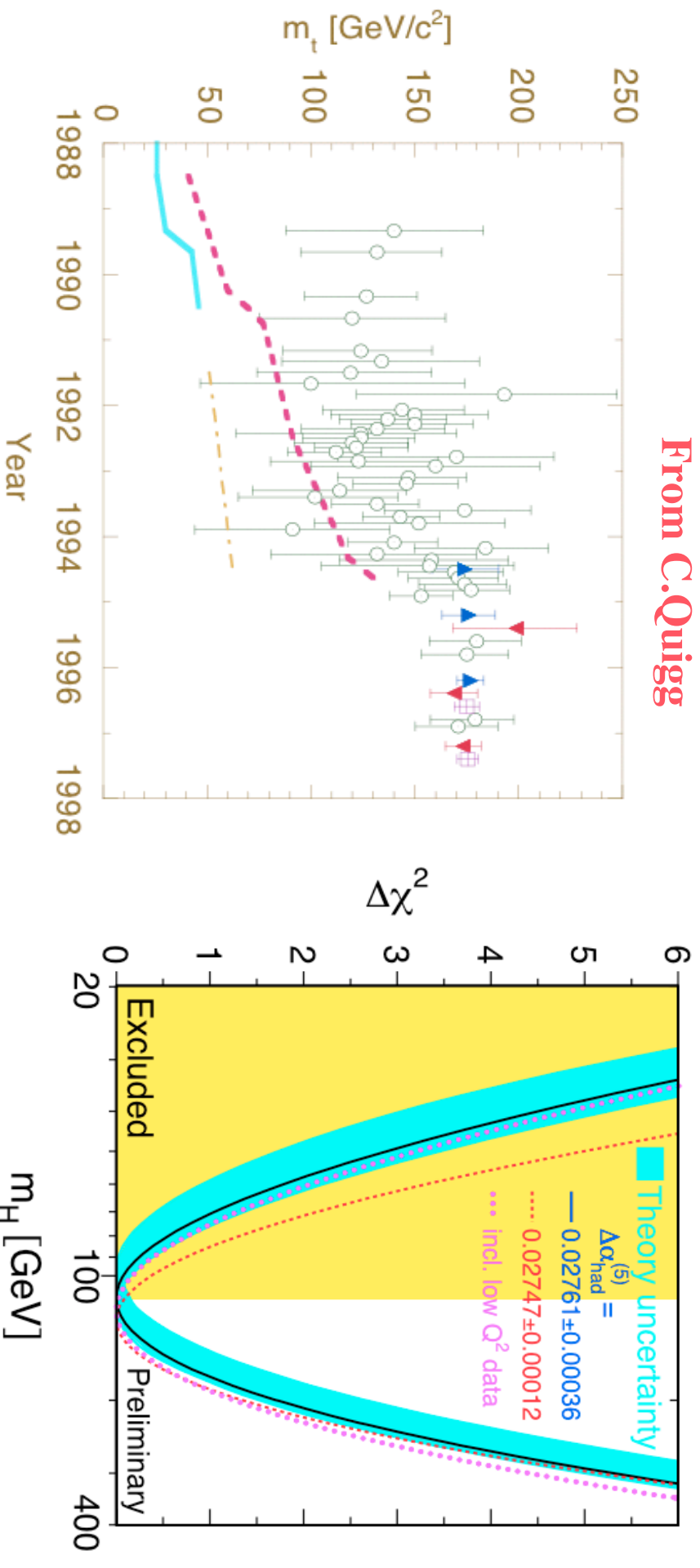
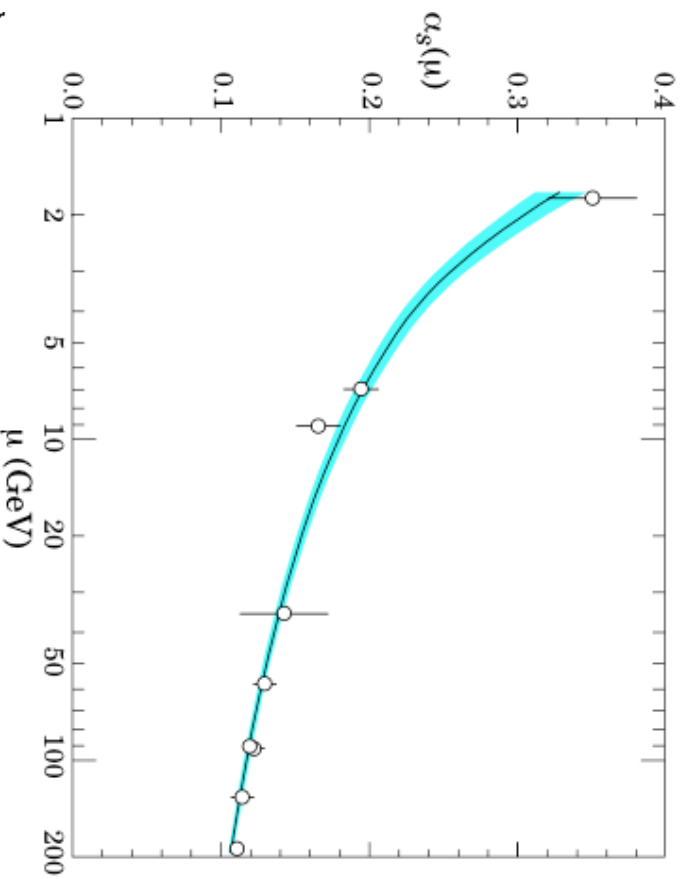


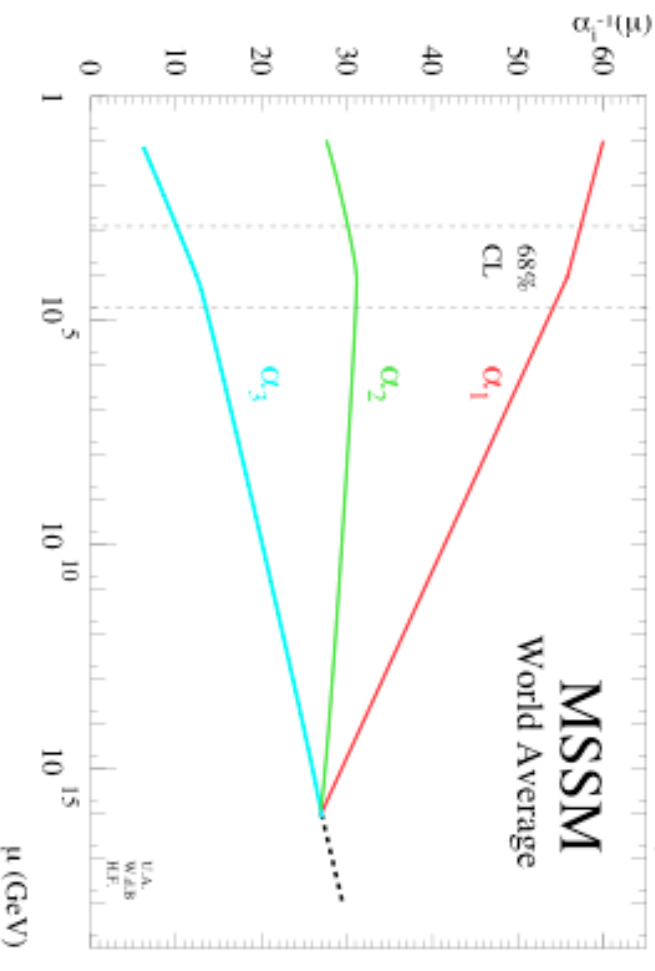
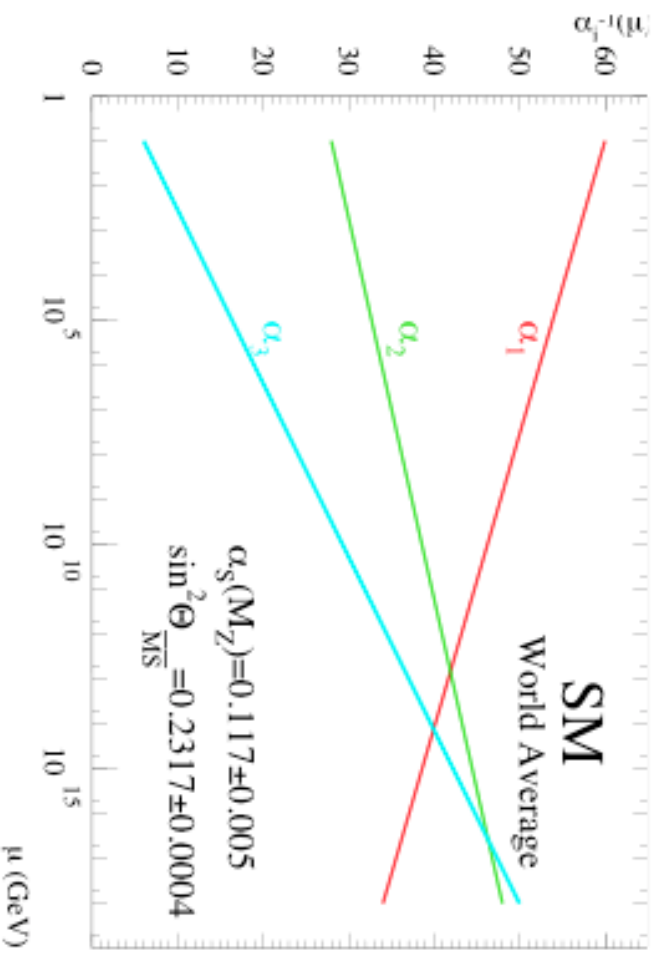
Figure 3 -- left: the top mass from indirect LEP measurements (open circles) and from the direct Tevatron measurements (color triangles) right: the preferred region for the SM Higgs mass (near the bottom of the  $\chi^2$  curve) deduced from electroweak measurements.

2000



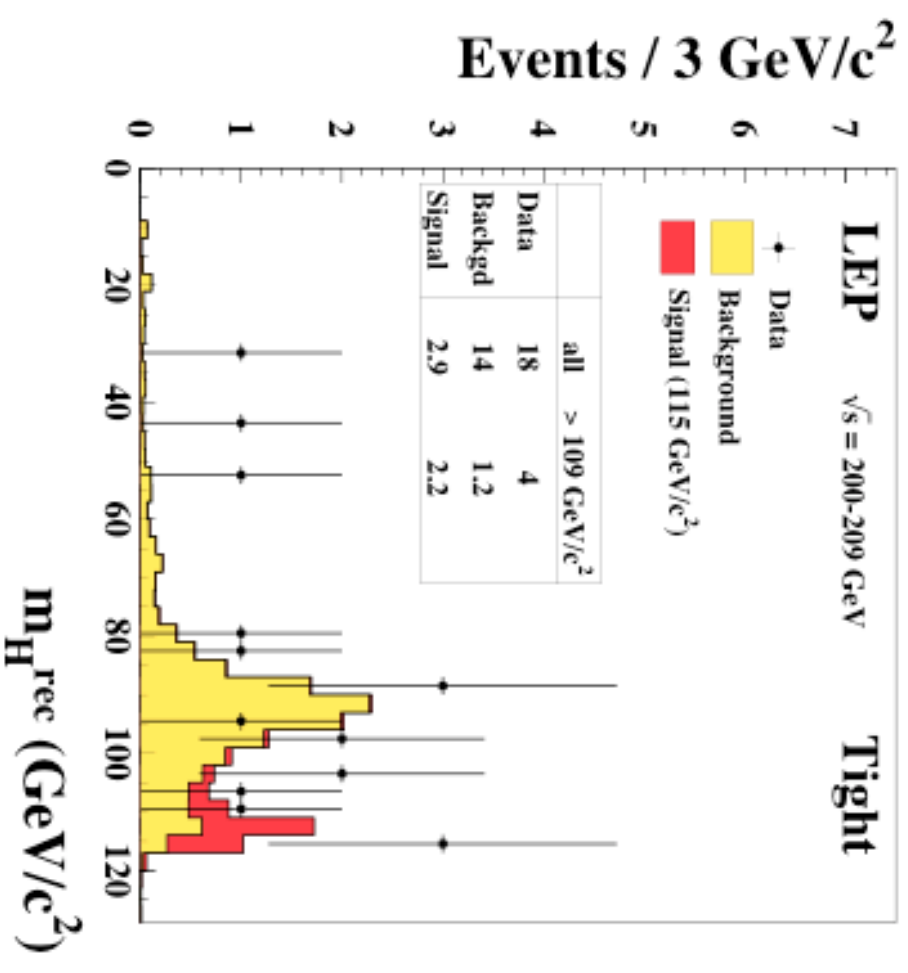
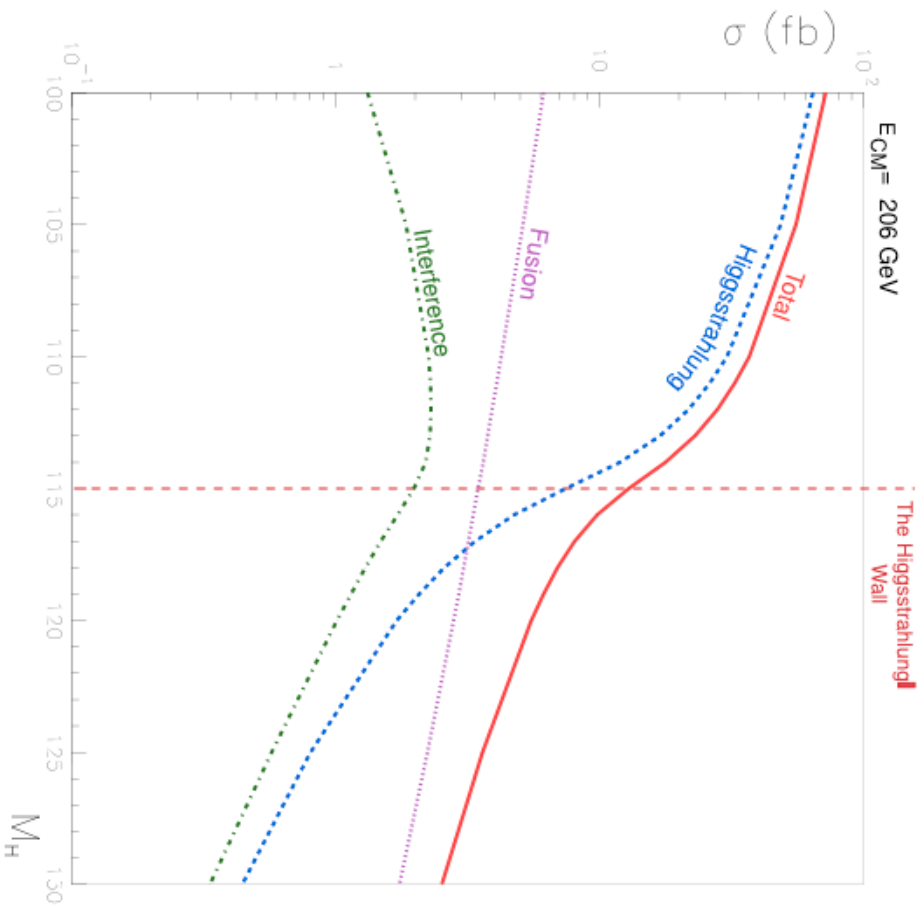
**Figure 4 -- left: the evolution of the strong coupling constant with the energy scale**  
**right: the convergence of the SM coupling constants, approximate in the SM (upper figure), exact in SUSY (lower figure).**

**One should distinguish this smooth running of couplings from the evolution of the intensity of the interaction with the energy scale, depending on the mass of the exchanged boson.**



$$M_S = 10^{3.7 \pm 0.8 \pm 0.4} \text{ GeV}$$

$$M_U = 10^{15.9 \pm 0.2 \pm 0.1} \text{ GeV}$$



**Figure 5: Higgs search at LEP2000**

left: the Higgs production cross section at the maximum CM energy (from E.Gross and A.L.Read)

right: the final mass spectrum recorded at LEP2000

# SCALAR LEPTOQUARKS WITH $F=0$ ( $\tilde{S}_{1/2,L}$ )

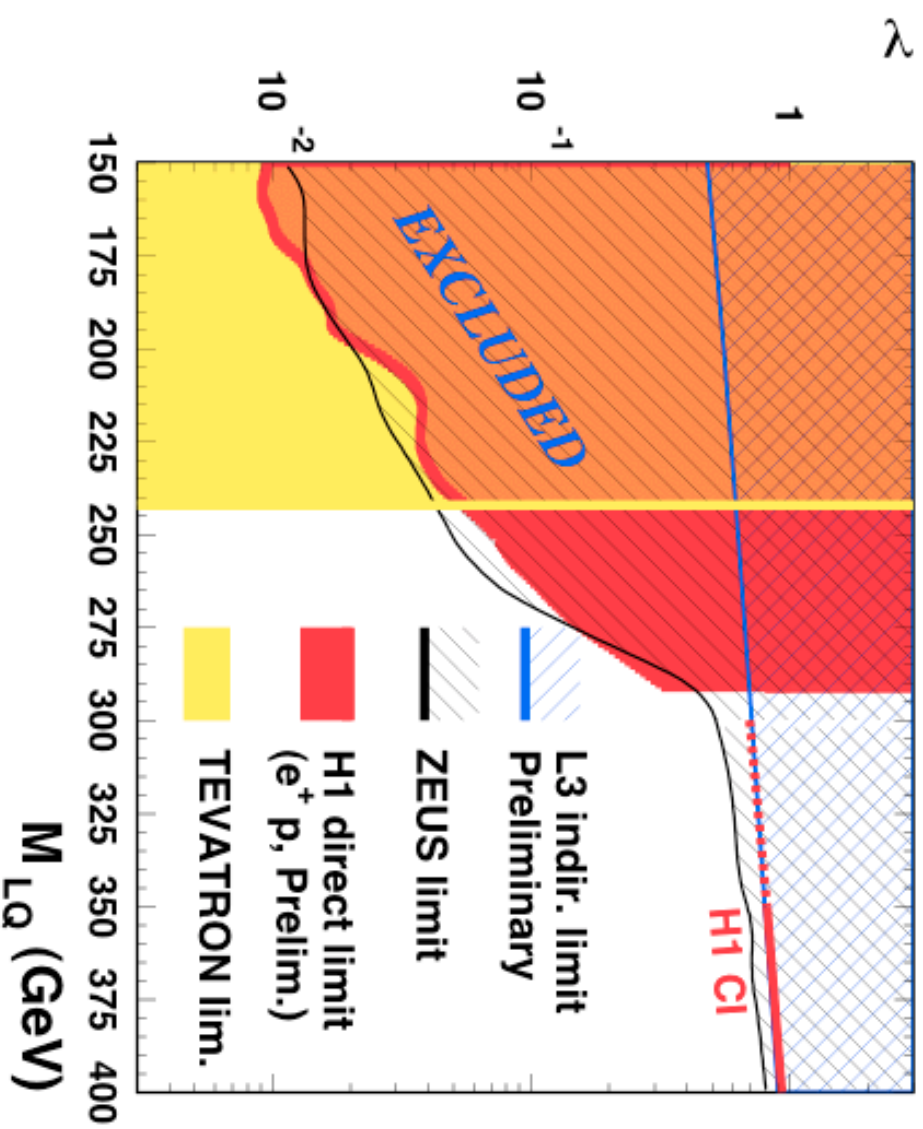


Figure 6: limits on leptoquarks at LEP and other machines

Channel	$m(l) >$	$\Delta M$	
$\tilde{\nu}$ , E.W. measurements	43.7 GeV	-	ADLO
$\tilde{e} \rightarrow e\chi_1^0$	99 GeV	10 GeV	ADLO
$\tilde{\mu} \rightarrow \mu\chi_1^0$	95 GeV	10 GeV	ADLO
$\tilde{\tau} \rightarrow \tau\chi_1^0$	85 GeV	10 GeV	ADLO
$stop \rightarrow c\chi_1^0$	95 GeV	20 GeV	ADLO
$stop \rightarrow bl\tilde{\nu}$	96 GeV	20 GeV	ALO
$sbot \rightarrow c\chi_1^0$	94 GeV	20 GeV	ADLO
$\tilde{g} \rightarrow jets + E_T^m$	195 GeV	-	CDF
$\chi_1^\pm \rightarrow W\chi_1^0$	103.5 GeV	large $m_0$	ADLO
$\chi_1^\pm \rightarrow W\chi_1^0$	92.4 GeV	small $\Delta M$	ADLO

**Table 1: the limits set on SUSY particles**