SUSY ALGEBRA

Graded Lie algebra of grade n=1

$$L = L_0 \oplus L_1$$

with L_0 =Poincaré and $L_1 = (Q^I_\alpha, \bar{Q}^I_{\dot{\alpha}})$

$$[P_\mu, Q^I_\alpha] = \quad [P_\mu, \bar{Q}^I_{\dot{\alpha}}] = 0$$

$$[Q^I_\alpha, M_{\mu\nu}] = \quad i(\sigma_{\mu\nu})^\beta_\alpha Q^I_\beta$$

$$[\bar{Q}^{\dot{\alpha}I}, M_{\mu\nu}] = \quad i(\bar{\sigma}_{\mu\nu})^{\dot{\alpha}}_{\dot{\beta}} Q^{\dot{\beta}I}$$