IIA massless fields

$$\left\{\begin{array}{l}\not{10}\\ \not{2}\\ \not{0}\end{array}\right| \quad = \quad \left\{\begin{array}{l}{}_{\mu\nu}\not{10}\\ {}_{\mu\nu}\not{2}\\ \not{0}\end{array}\right|$$
$$\left|\begin{array}{l}\not{Y}\\ \not{Z}\end{array}\right\} \qquad\qquad \left|\begin{array}{l}{}_{\mu}\not{Y}\\ {}_{\mu\nu\varrho}\not{Z}\end{array}\right\}$$

$$\text{gravitino} \quad \begin{cases} \not{I}^0 & \gamma_{11}\not{I}^0 = \not{I}^0 \\ \not{I}^1 & \gamma_{11}\not{I}^1 = -\not{I}^1 \end{cases}$$

$$\text{dilatino} \quad \begin{cases} \not{\varnothing}^0 & \gamma_{11}\not{\varnothing}^0 = -\not{\varnothing}^0 \\ \not{\varnothing}^1 & \gamma_{11}\not{\varnothing}^1 = \not{\varnothing}^1 \end{cases}$$

$$\text{SUSY} \quad \begin{cases} \varepsilon^0 & \gamma_{11}\varepsilon^0 = \varepsilon^0 \\ \varepsilon^1 & \gamma_{11}\varepsilon^1 = -\varepsilon^1 \end{cases}$$

$$\text{IIA} \quad \begin{bmatrix} \not{9}1 \\ 4 \end{bmatrix} \underset{g}{\Longrightarrow} \begin{bmatrix} \not{10} \\ 4 \end{bmatrix} \underset{R}{\Longleftarrow} \begin{bmatrix} \not{11} \\ 4 \end{bmatrix} \boxminus \begin{bmatrix} 1 \\ 0 \end{bmatrix} : \quad \text{M}/\mathbb{T}$$

$$\text{bosonic massless sector NN} \quad \begin{cases} g \text{ metric} & e^m_\mu = \text{ vielbein } 4 \\ \not{2} & 2\text{-potential } B_{\mu\nu} \\ \phi & \text{dilaton scalar} \end{cases} \quad \text{RR} \quad \begin{cases} \not{Y} \\ \not{Z} \end{cases}$$

$$\psi : \widetilde{\psi}\, 16 = 2^4 \text{ IIA spinors } \psi * \widetilde{\psi}$$

IIA non-chiral fermi NR : $N2$ SUSY

$$\not{\mathcal{Z}}\, \underset{-}{\not{Z}}{}^2 - \left(\mathfrak{e}^{-2\phi} \underbrace{\frac{1}{3!2} \overset{2}{\overbrace{\ell_s^2 \underset{-}{\not{\mathcal{Z}}}}} - R_{10} - 4 \overset{2}{\overbrace{\underset{-}{\phi}}}}_{\text{NS}} + \underbrace{\frac{1}{4!2} \overset{2}{\overbrace{\ell_s^3 \underset{-}{\not{Z}}}} + \frac{1}{2!2} \overset{2}{\overbrace{\ell_s \underset{-}{\not{Y}}}}}_{\text{RR}} \right) d^{10}x \sqrt{-g}$$

$$g_s = \mathfrak{e}^{\phi}$$

$$R_s = \ell_s\, g_s$$