

type IIA non-chiral closed oriented massless string states  $\frac{\text{NS-NS}}{\text{NS-R}} \mid \frac{\text{R-NS}}{\text{R-R}} =$

$\begin{aligned} \text{graviton } G_{\mu\nu} &= \frac{8 \cdot 9}{2} - 1 = 35 \\ B_{\mu\nu} &= \binom{8}{2} = 28 \\ \text{dilaton } \Phi &= 1 \end{aligned}$	$\begin{aligned} +\text{gravitinos } \chi_\mu^\alpha &= 56 \\ -\text{dilatinos } \lambda_\alpha &= 8 \end{aligned}$
$\begin{aligned} -\text{gravitinos } \chi_\mu^\alpha &= 56 \\ +\text{dilatinos } \lambda_\alpha &= 8 \end{aligned}$	$\begin{aligned} 0 \text{ branon } C_\mu &= 8 \\ 2 \text{ branon } C_{\lambda\mu\nu} &= \binom{8}{3} = 56 \end{aligned}$

type IIB chiral closed oriented massless string states  $\frac{\text{NS-NS}}{\text{NS-R}} \mid \frac{\text{R-NS}}{\text{R-R}} =$

$\begin{aligned} \text{graviton } G_{\mu\nu} &= \frac{8 \cdot 9}{2} - 1 = 35 \\ B_{\mu\nu} &= \binom{8}{2} = 28 \\ \text{dilaton } \Phi &= 1 \end{aligned}$	$\begin{aligned} +\text{gravitinos } \chi_\mu^\alpha &= 56 \\ -\text{dilatinos } \lambda_\alpha &= 8 \end{aligned}$
$\begin{aligned} +\text{gravitinos } \chi_\mu^\alpha &= 56 \\ -\text{dilatinos } \lambda_\alpha &= 8 \end{aligned}$	$\begin{aligned} -1 \text{ branon } C &= 1 \\ 1 \text{ branon } C_{\mu\nu} &= \binom{8}{2} = 28 \\ 3 \text{ branon } C_{\varkappa\lambda\mu\nu} &= \frac{1}{2} \binom{8}{4} = 35dC \text{ self-dual} \end{aligned}$

type I closed/open massless string states  $\frac{\text{NS-NS}}{\text{NS-R}} \mid \frac{\text{R-NS}}{\text{R-R}} \mid \frac{\text{NS}}{R} =$

$\begin{aligned} \text{graviton } G_{\mu\nu} &= \frac{8 \cdot 9}{2} - 1 = 35 \\ \text{dilaton } \Phi &= 1 \end{aligned}$	$\begin{aligned} \text{gravitinos } \chi_\mu^\alpha &= 56 \\ \text{dilatinos } \lambda_\alpha &= 8 \end{aligned}$	$\text{gaugons } \mu A = 8 \cdot {}^{32}\mathbb{R}_{32}^\ominus = 8 \cdot 496$
	$1 \text{ branon } C_{\mu\nu} = \binom{8}{2} = 28$	$\text{gauginos } \psi^\alpha = 8 \cdot {}^{32}\mathbb{R}_{32}^\ominus = 8 \cdot 496$

heterotic closed oriented massless string states  $\frac{\text{NS-NS}}{\text{NS-R}} \mid \frac{\text{R-NS}}{\text{R-R}} \mid \frac{\text{NS}}{R} =$

$\begin{aligned} \text{graviton } G_{\mu\nu} &= \frac{8 \cdot 9}{2} - 1 = 35 \\ B_{\mu\nu} &= \binom{8}{2} = 28 \\ \text{dilaton } \Phi &= 1 \end{aligned}$		$\text{gaugons } \mu A = 8 \cdot \begin{cases} {}^{32}\mathbb{R}_{32}^\ominus \\ E_8 \times E_8 \end{cases} = 8 \cdot 496$
$\begin{aligned} \text{gravitinos } \chi_\mu^\alpha &= 56 \\ \text{dilatinos } \lambda_\alpha &= 8 \end{aligned}$		$\text{gauginos } \psi^\alpha = 8 \cdot \begin{cases} {}^{32}\mathbb{R}_{32}^\ominus \\ E_8 \times E_8 \end{cases} = 8 \cdot 496$