$$\mathrm{M}: \quad \overset{2}{\underset{5}{4}} = \frac{C_0}{2C_0}$$

$$\mathbb{P}^2 = \mathbb{P}^2_0 = \frac{\mathbb{C}z}{z \in \mathbb{C}^3}$$

$$\text{Pic } \mathbb{P}^2 = \mathbb{Z} \cdot C_0$$

$$C_0 = \text{ line class/all equ}$$

$$C_0 | C_0 = 1 \text{ one point intersection}$$

$$\text{Schnittmatrix } (1)$$

$$-K = 3C_0 = (1{:}0{:}0) \cup (0{:}1{:}0) \cup (0{:}0{:}1)$$

$$-K \text{ ample} \implies \text{degree } -K|C$$

$$-K|-K = 3C_0|3C_0 = 9 > 0$$

$$-K|C_0 = 3C_0|C_0 = 3 > 0$$

$$\text{rat}^3_6 \begin{cases} C_0 & \begin{cases} \not{3} & \begin{cases} M^+_2 & M2 \text{ brane} \\ M^+_5 & M5 \text{ brane} \end{cases} \\ *\not{3} \end{cases} \\ 2C_0 \end{cases}$$

$$0 = g_{mC_0} = 1 + \frac{\widetilde{K + mC_0}|mC_0}{2} = 1 + \frac{\widetilde{m-3}C_0|mC_0}{2} = 1 + \frac{\widetilde{m-3}m}{2} \Leftrightarrow m^2 - 3m = -2 \Leftrightarrow m = \begin{cases} 1 \\ 2 \end{cases}$$

$$\deg C_0 = -K|C_0 = 3C_0|C_0 = 3$$

$$\deg 2C_0 = -K|2C_0 = 3C_0|2C_0 = 6$$

$$\text{spin } ts^2r \underset{\underline{\underline{y^5}}}{\overset{x^2}{}} = \begin{cases} H_6^{-2/3}\widetilde{\underline{x}^2 - \underline{t}^2} + H_6^{1/3}\underline{\underline{r{:}y{:}s}} & M^+_2 \sim 1/\ell^3 \\ H_3^{-1/3}\widetilde{\underline{y}^2 - \underline{t}^2} + H_3^{2/3}\underline{\underline{r{:}x{:}s}} & M^+_5 \sim 1/\ell^6 \end{cases}$$

$$\text{vect } tz^2\sigma \underset{\underline{\underline{y^6}}}{\overset{x^1}{}} = \begin{cases} \underline{x}^2 - \underline{t}^2 + \left(H_7 - 1\right)\widetilde{\underline{x} + \underline{t}}^2 + \underline{y} & \text{pp-wave massless particle } K^+_0 \sim 1/R \\ \underline{y}^2 - \underline{t}^2 + H_1\underline{\underline{x{:}z}} + H_1^{-1}\widetilde{\underline{\psi} + \underline{x{:}z}V(r)}^2 & \text{KK monopole } K^+_6 \sim R^2/\ell^9 \end{cases}$$