⌈ Comment on deg of π_p:

$\pi_p : S \longrightarrow H$. Consider a point $[(0,1,0)] \in H$.

$\Rightarrow \pi_p^{-1}([(0,1,0)]) = \{[(0,1,p_1)], [(0,1,p_2)], \cdots [(0,1,p_n)]\}$

$\Rightarrow S \cap \underset{L}{\underset{\shortparallel}{\mathbb{P}^1}} = \{(z_0=0)\} = n$, since L is not tangent to S.

$p_1, \cdots p_n$ are distinct each other.

$\Rightarrow \deg S = n := d$ ⌋

⌈ Review on the identification $\mathcal{E}(S)$ with $\mathcal{O}(\Lambda^2 T^{*\prime}\mathbb{P}^2 \otimes [S])$

$$\Omega^2(S) = \Omega^2([S]) = \mathcal{O}(K_{\mathbb{P}^2} \otimes [S])$$

$S = (s_0 = 0)$, s_0 is a meromorphic section for $[S]$.

Given a section $\sigma \in \mathcal{O}(K_{\mathbb{P}^2} \otimes [S])$, we may express σ as (σ_α) where

$\sigma_\alpha = g_{\alpha\beta} h_{\alpha\beta} \sigma_\beta$, $g_{\alpha\beta}$ transition functions for $K_{\mathbb{P}^2}$.

$h_{\alpha\beta}$ transition functions for $[S]$.

$$\Rightarrow \mathcal{E}(S) \xrightarrow{\otimes s_0} \mathcal{O}(K_{\mathbb{P}^2} \otimes [S])$$

$$\left(\frac{\sigma_\alpha}{s_{0\alpha}}\right) \longmapsto (\sigma_\alpha)$$

Since $\dfrac{\sigma_\alpha}{s_{0\alpha}} = \dfrac{g_{\alpha\beta} h_{\alpha\beta} \sigma_\beta}{h_{\alpha\beta} s_{0\beta}} = g_{\alpha\beta} \dfrac{\sigma_\beta}{s_{0\beta}}$ and $\left(\dfrac{\sigma_\alpha}{s_{0\beta}}\right)$ is a section of $K_{\mathbb{P}^2}$.

Since $s_{0\alpha} = 0$ on S, $\dfrac{\sigma_\alpha}{s_{0\alpha}}$ has a pole on S.

If, for a point $p \in S$, $\sigma_\alpha(p) = 0$. $\Rightarrow$ p is a point in a zero set of σ.