

$$\{ [(0, 0, 0, 1) + \beta (a_1, a_2, a_3, 0)] \} = \{ [(\beta a_1, \beta a_2, \beta a_3, 1)] \}_{\alpha, \beta \in \mathbb{C}}$$

$$\Rightarrow L \cap P^2 = [(\beta a_1, \beta a_2, \beta a_3, 0)] = [(a_1, a_2, a_3, 0)] = \pi_{p_0}([a_1, a_2, a_3, a_4]). \Rightarrow \text{Thus since } \phi \text{ is linear isomorphism, for any point } q, \pi_p(q) = \overline{pq} \cap H.$$

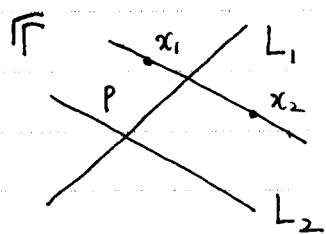
For example, the line joining $[0, 0, 0, 1]$ and $[1, 1, 1, 0]$ is given by $[t, t, t, 1]$. \square

The inverse images of q_1 and q_2 , on the other hand, will be the proper transforms \tilde{L}_1 and \tilde{L}_2 of L_1 and L_2 in \tilde{S} .

$$\text{For } x \in L_1 - \{p\}, \overline{px} = L_1 \Rightarrow \overline{px} \cap H = \tilde{\pi}(x) = \{q_1\}$$

$$\text{For } \tilde{L}_1 - L_1 = Y, \text{ then } Y \text{ is represented by the slope at } p. \Rightarrow \tilde{\pi}(Y) = \text{tangent line through } p \cap H = \{q_1\} = L_1 \cap H. \Rightarrow \tilde{\pi}^{-1}(q_1) = L_1 \Rightarrow \text{Similarly } \tilde{\pi}^{-1}(q_2) = L_2. \square$$

(Note that the A-lines of S - i.e., lines meeting L_1 are mapped into the pencil of lines in H containing q_1 , the B-lines into the pencil of lines through q_2 , and the exceptional divisor E onto the line $\overline{q_1 q_2}$.)



$L \rightarrow \text{A-line} \Rightarrow \text{What is } \tilde{\pi}(L)?$

$$\Rightarrow \text{Let } \overline{px_1} = l_1, \text{ and } \overline{px_2} = l_2.$$

$$\Rightarrow \langle l_1, l_2 \rangle \cap H \text{ is a line}$$