

variety. In particular, we want to consider, for any line $L \subset X$, the rational map

$$f_L: X - L \longrightarrow \mathbb{P}^3$$

obtained by projection from L onto a complementary 3-plane $V_3 \subset \mathbb{P}^5$.

¶ We may assume that $L = [* \cdot *, 0, 0, 0, 0] \subset \mathbb{P}^5$.

$\Rightarrow f_L: X - L \longrightarrow \mathbb{P}^3$ is given by

$$[X_0, \underset{\downarrow}{X_1}, \dots, X_5] \longmapsto [0, 0, X_2, X_3, X_4, X_5] \in \mathbb{P}^3.$$

\Rightarrow Since $\text{cod } L$ is 2 in X , f_L is a rational map. \square

We claim first that f_L is a birational isomorphism of X with \mathbb{P}^3 . To see this, simply note that if any 2-plane $V_2 \subset \mathbb{P}^5$ containing L contains two points $p \neq q$ of X not on L , then the line $\overline{pq} \subset V_2$ must meet X in at least three points — p, q , and the point of intersection $\overline{pq} \cap L$ — and so must lie in X . (See Figure 25.)

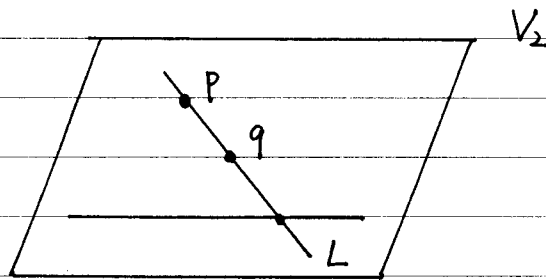


Figure 25