

For each $q \in L$, $T_q(G) = \{ {}^tX Q q = 0 \}$ and $T_q(F) = \{ {}^tX Q' q = 0 \}$, where $G = \{ {}^tX Q X = 0 \}$ and $F = \{ {}^tX Q' X = 0 \}$. \Rightarrow At $q \in L$, $T_q(X) = \{ {}^tX Q q = {}^tX Q' q = 0 \}$.

Choose two distinct points $q_0, q_1 \in L$.

\Rightarrow For $q \in L$, $q = \lambda q_0 + q_1$, $\lambda \in \mathbb{P}^1$.

$\Rightarrow T_q^{(X)} = \{ {}^tX Q (\lambda q_0 + q_1) = {}^tX Q' (\lambda q_0 + q_1) = 0 \}$.

$\Rightarrow \lambda {}^tX Q q_0 + {}^tX Q q_1 = 0$ and $\lambda {}^tX Q' q_0 + {}^tX Q' q_1 = 0$.

$\Rightarrow \lambda : 1 = {}^tX Q q_1 : - {}^tX Q q_0 = {}^tX Q' q_1 : - {}^tX Q' q_0$.

$\Rightarrow ({}^tX Q q_0) ({}^tX Q' q_1) = ({}^tX Q q_1) ({}^tX Q' q_0)$.

\Rightarrow Let $\tilde{Q} = \{ X \mid ({}^tX Q q_0) ({}^tX Q' q_1) - ({}^tX Q q_1) ({}^tX Q' q_0) = 0 \}$.

$\Rightarrow \tilde{Q}$ is a quadric in \mathbb{P}^5 . Clearly any $X \in \bigcup_{x \in L} T_x(X)$ lies in \tilde{Q} .

If $\bigcup_{x \in L} T_x(X)$ is $\overset{\text{in}}{=}$ a hyperplane H , $L \subset H \subset \mathbb{P}^5$.

$\Rightarrow \left(\bigcup_{x \in L} T_x(X) \right) \cap X \subset H \cap X$ which is a surface
 $\Rightarrow \bigcup_{x \in L} (T_x(X) \cap X)$ is the set of all lines in X meeting L .

then $\bigcup_{x \in L} T_x(X) \cap X = \bigcup_{x \in L} (T_x(X) \cap X)$

$= \bigcup_{L' \in B_L} L' \cup L \subset H \cap X \Rightarrow \overline{f(\bigcup_{L' \in B_L} L')} = \text{the}$

closure of $f(\bigcup_{L' \in B_L} L') = E_L$ lies in $H \cap V_3 = \mathbb{P}^2$.

$\Rightarrow E_L$ is a plane curve \Rightarrow By the Plücker formula, $g(E_L) = g(B_L) = 2 \neq \frac{(5-1)(5-2)}{2} = 6$ which is impossible. $\Rightarrow \bigcup_{x \in L} T_x(X) \not\subset H \Rightarrow \bigcup_{x \in L} T_x(X)$