Again by 739, $\Lambda \cap \overline{V_6} \geq \mathbb{P}^3$, otherwise $\Lambda \cap \overline{V_6} > \mathbb{P}^3$, $3 > \frac{6-2}{2}$. ⅃

But $\overline{V_6}$ meets $\mathbb{P}^{n-3}_{ij}$ in a line, and F_{ij} in a pair of points p_{ij1} and p_{ij2}; and writing any k-plane $\Lambda \subset F$ through p_i and p_j as

$$\Lambda = \overline{p_i, p_{ij}, \Lambda \cap \mathbb{P}^{n-3}_{ij}},$$

we see that Λ satisfies this condition if and only if it contains either p_{ij1} or p_{ij2}.

⌈ Let $i=1, j=1$.

First:

By the choice of $\overline{V_4}$, $F \cap \overline{V_4}$ is a smooth quadric in $\overline{V_4}$. We want to know about $T_{p_1}(F) \cap \overline{V_4} \cap F$.

$$T_{p_1}(F) \cap \overline{V_4} \cap F = (T_{p_1}(F) \cap \overline{V_4}) \cap (\overline{V_4} \cap F)$$
$$= T_{p_1}(F \cap \overline{V_4}) \cap (F \cap \overline{V_4}) \text{ since } p_1 \in F \cap \overline{V_4}$$

and if M & N intersect transversely at p, then $T_p(M \cap N) = T_p(M) \cap T_p(N)$ by counting the dimensions. ($\because$ Clearly $T_p(M \cap N) \subset T_p(M) \cap T_p(N)$. $\dim T_p(M \cap N) = \dim(T_p(M) \cap T_p(N))$.)

Thus since $\mathbb{P}^{n-1}_1$ is an $(n-1)$-plane not containing p_1, by P734 ⊛ $(\mathbb{P}^{n-1}_1 \cap \overline{V_4}) \cap (F \cap \overline{V_4})$ is a smooth quadric of dimension 0. $\Rightarrow$ Since $\mathbb{P}^{n-1}_1 \cap \overline{V_4}$ is a line in $T_{p_1}(F \cap \overline{V_4}) = \mathbb{P}^2$, $\mathbb{P}^{n-1}_1 \cap F \cap \overline{V_4}$ is a set of distinct