thus corresponds to the 2-planes in F_λ containing L.

$\ulcorner$ Note that, if $\lambda \neq \mu$, $F_\mu \cap F_\lambda = X$ by the argument above. $\Rightarrow$ $\Lambda \cap X = \Lambda \cap (F_\lambda \cap F_\mu) = \Lambda \cap F_\mu$ and since $\Lambda \not\subset F_\mu$, $\Lambda \cap F_\mu$ is a conic curve in Λ. $\Rightarrow$ $\Lambda \cap F_\mu \supset L$ $\Rightarrow$ $\Lambda \cap F_\mu = L \cup L'$.

$$\begin{array}{ccc} \pi^{-1}(\lambda) & \xrightarrow{\phi} & \{\Lambda \mid \Lambda \subset F_\lambda\} \\ \Downarrow & & \Downarrow \\ L' & \longmapsto & \overline{L', L} \end{array}$$

by the previous argument.

Given $\Lambda \supset L$, then $\Lambda \cap F_\mu = L \cup L'$. $\Rightarrow$ $\Lambda \cap X = L \cup L'$. $\Rightarrow$ $\Lambda = \overline{L, L'}$ $\Rightarrow$ $\exists$ inverse of ϕ. s.t $\phi(\Lambda) = L'$. $\Rightarrow$ ϕ is one to one, onto. $\lrcorner$

There are two possibilities: first, if F_λ is smooth, then, as we have seen, the 2-planes on F_λ fall into two connected three-dimensional components.

$\ulcorner$ See P735, Proposition. $\Rightarrow$ F_λ contains two irreducible 3-dimensional families of 2-planes. $\lrcorner$

Now if $p \in L \subset F_\lambda$ is any point of L, the intersection $T_p(F_\lambda) \cap F_\lambda$ will be a cone over the smooth quadric surface $\tilde{F}_\lambda$ cut out on F_λ by any 3-plane in $T_p(F_\lambda)$ missing p, and the 2-planes on F_λ through the point p will be spanned by the lines on $\tilde{F}_\lambda$ together with p.