

by the property of transversality, \exists open set $O \ni (C_1, \dots, C_5)$ in $(W)^5$ s.t., for all $(C'_1, \dots, C'_5) \in O$, $V_{C'_1}, \dots, V_{C'_5}$ meet transversely away from the subvariety of singular conics.

* Since we assumed that assertion 1 is not true, \exists a set $K \subset (W)^5$ s.t. $K \subset (U)^5$, K is not a generic set in some open set in $(U)^5$ and for all $(C''_1, \dots, C''_5) \in K$, $V_{C''_1}, \dots, V_{C''_5}$ do not meet transversely at some point in U .

Observe the following:

① Since $\pi_1 : I \rightarrow (W)^5$ is generically finite-to-one, by Sard's theorem, π_1 is a covering map generically, or $\pi_1(I)$ is a set of measure zero.

② By the assumption that assertion 1 is not valid, * and ①, $\dim J = \dim I$.

\Rightarrow Since I is irreducible, $I = J \Rightarrow$ Since π_1 is generically ^{finite to} one, $\pi_1(J) = \pi_1(I) = \overset{\dim}{\vee} (W)^5$.

\hookrightarrow Note that, if $V_{C_1} \cap \dots \cap V_{C_5} \cap U = \emptyset$, V_{C_i} 's meet transversely. \Rightarrow For generic C_1, \dots, C_5 , V_{C_i} 's meet transversely away from the subvariety of singular conics. \Rightarrow It is done.