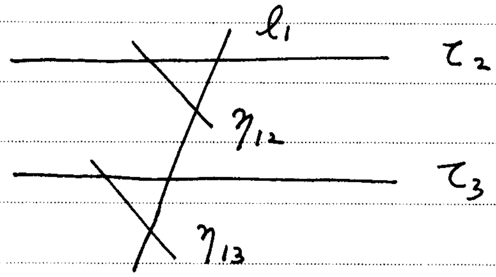
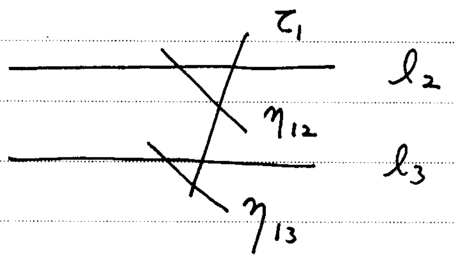
Suppose $\eta_{12} \cap \eta_{13} \neq \phi$



$\Rightarrow \quad \eta_{12} \oplus \eta_{13} = l_1$

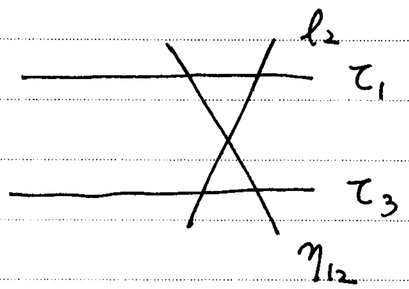
and



$\Rightarrow \quad \eta_{12} \oplus \eta_{13} = \tau_1$

$\Rightarrow \quad l_1 = \tau_1$ impossible. $\Rightarrow \quad \eta_{ij} \cap \eta_{ik} = \phi$ if $j \neq k$

Suppose $\eta_{12} \cap \tau_3 \neq \phi$



$\Rightarrow \quad \eta_{12} \oplus l_2 = \tau_1 = \tau_3$

impossible

$\Rightarrow \quad \eta_{ij} \cap \tau_k = \phi$ if $k \neq i, j$.

Similarly $\eta_{12} \cap l_3 = \phi$.

$\Rightarrow$

$\{ \tau_i \}$ (1)

$\{ \tau_i, \tau_j, \tau_k, \quad \eta_{lm}, \eta_{nm}, \eta_{ln} \}$ (2) 12 sets

$\{ \tau_i, l_i, \quad \eta_{jk}, \eta_{jl}, \eta_{jm}, \eta_{jn} \}$ (3) of six disjoint

$\{ l_i, l_j, l_k, \quad \eta_{lm}, \eta_{ln}, \eta_{mn} \}$ (4) lines on S

$\{ l_i \}$ (5)

$\Rightarrow$ We have one more $\{ \tau_5, l_5, \eta_{12}, \eta_{13}, \eta_{14}, \eta_{34} \}$ if $\eta_{12} \cap \eta_{34} = \phi$. $\Rightarrow$ Contradiction to the fact that