

$$G(n+1, 2n+2).$$

□

Assume the statement of the proposition for  $m \leq n$  (it is trivially true for  $n=0$ ), and for  $F \subset \mathbb{P}^{2n+2}$  a smooth quadric consider the incidence correspondence

$$I \subset F \times G(n+1, 2n+3)$$

defined by

$$I = \{(p, \Lambda_n) : p \in \Lambda \subset F\}.$$

$$\text{If } n=0 \Rightarrow \textcircled{1} \quad m=2n=0 \Rightarrow F = \{X_0^2 + X_1^2 = 0\} \subset \mathbb{P}^1$$

$$\Rightarrow F = \{[1, i], [1, -i]\}$$

$\Rightarrow F$  contains two 0-dimensional family of 0-planes  $\{[1, i]\}, \{[1, -i]\}.$

" $\Lambda_1$ "

" $\Lambda_2$ "

$$\Rightarrow \dim(\Lambda_1 \cap \Lambda_2) = 0 \text{ (2)}. \quad \dim(\Lambda_1 \cap \Lambda_2) < 0$$

"-1 (?) See P137 bottom line."

$$\textcircled{2} \quad m=1. \quad F = \{X_0^2 + X_1^2 + X_2^2 = 0\} \subset \mathbb{P}^2.$$

$\Rightarrow$  Since  $F$  is smooth,  $F$  is irreducible (otherwise  $F$  is singular), and  $\dim F = 1$ .

$\Rightarrow F$  is 1-dimensional family of 0-planes. (A 0-plane is a point). □

The projection map  $\pi_2: I \rightarrow G(n+1, 2n+3)$  maps  $I$  onto  $\Sigma_n'$  with fibers isomorphic to  $\mathbb{P}^n$ .