

Thus, by p 168, since  $V$  is a branched cover of a linear subspace  $\mathbb{P}^k \subset \mathbb{P}^n$ ,

we have only to show that

$$\pi^* \omega^k = \omega^k \quad \text{and} \quad \int_{\mathbb{P}^k} \omega^k = 1, \quad \text{where}$$

$\pi: V \longrightarrow \mathbb{P}^k$  is the projection from  $\mathbb{P}^{n-k-1}$ .

We know from p 122 that  $\int_{\ell} \omega = 1$ ,

where  $\ell$  is a line in  $\mathbb{P}^n$ .

By de Rham isomorphism,  $\exists \bar{\omega} \in H^2(\mathbb{P}^n, \mathbb{Z})$

s.t

$$\begin{array}{ccc} H_{\text{DR}}^2(\mathbb{P}^n, \mathbb{R}) & \longleftrightarrow & H^2(\mathbb{P}^n, \mathbb{R}) \\ \downarrow & & \downarrow \\ \omega & \longleftrightarrow & \bar{\omega} \end{array}$$

$\Rightarrow$  By p 60 & Th. 14.4 (p 160, Milnor, Characteristic class)  
 $\int_{\mathbb{P}^2} \omega^2 = \bar{\omega}^2(\mathbb{P}^2) \dots \int_{\mathbb{P}^k} \omega^k = \bar{\omega}^k(\mathbb{P}^k).$   
 $= 1.$

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I think: the statement that  $\int_V \omega^k = \deg V$

$\int_{\mathbb{P}^k} \omega^k$  is not correct.

According to the definition of a degree of a map