just the determinants $|\Lambda_I|$ of all the $k\times k$ minors Λ_I of a matrix representative of Λ.

Γ $$\Lambda^I = \begin{pmatrix} 1, & z_{11}, & 0, & z_{12} \\ 0, & z_{21}, & 1, & z_{22} \end{pmatrix}$$

$$\Rightarrow [\, z_{21},\ 1,\ z_{22},\ z_{11},\ z_{11}z_{22}-z_{21}z_{12},\ -z_{12} \,]$$

Since $G(k,n)$ is complex manifold, it is orientable. not relevant

$\Rightarrow$ The map is well-defined, since

$$\Lambda^I = g\,\Lambda^{I'} \qquad g\in GL(k,\mathbb{C}).$$

⅃

It follows that (1) p is holomorphic. (2) p takes every Schubert cycle of the form

$$\sigma_1(V) = \{\Lambda\in G(k,n) : \dim(\Lambda\cap V_{n-k}) \geq 1\}$$

into a hyperplane section of $p(G(k,n)) \subset \mathbb{P}^{\binom{n}{k}-1}$.

Γ (1) is clear.

(2) Since every $\Lambda\in G(k,n)$ intersects V_{n-k},

$$\det\begin{pmatrix}\Lambda_I \\ e_1 \\ \vdots \\ e_{n-k}\end{pmatrix} = 0.$$

For example, if $\Lambda\in G(2,4)$, then

$$0 = \begin{vmatrix} 1, & z_{11}, & 0, & z_{12} \\ 0, & z_{21}, & 1, & z_{22} \\ 1, & 0, & 0, & 0 \\ 0, & 1, & 0, & 0 \end{vmatrix} = \begin{vmatrix} z_{11}, & 0, & z_{12} \\ z_{21}, & 1, & z_{22} \\ 1, & 0, & 0 \end{vmatrix} = \begin{vmatrix} 0, & z_{12} \\ 1, & z_{22} \end{vmatrix}$$

$$= 0\begin{vmatrix} 1 & z_{11} \\ 0 & z_{2} \end{vmatrix} + 0\begin{vmatrix} 1 & 0 \\ 0 & 1 \end{vmatrix} + 0\begin{vmatrix} 1, & z_{12} \\ 0, & z_{22} \end{vmatrix} + 0\begin{vmatrix} z_{11}, & 0 \\ z_{21}, & 1 \end{vmatrix} +$$