For example(i) $\varphi(z_1, \cdots z_2) = [\varphi_0(z), \varphi_1(z), \varphi_2(z), \varphi_3(z)]$

$$\begin{array}{ccccc} M^* & \longrightarrow & G(3,4) & \longrightarrow & \mathbb{P}(\Lambda^3 \mathbb{C}^4) \\ \Downarrow & & & & \\ z & \longmapsto & \langle \ , \ , \ \cdots \rangle & \longmapsto & \left[1, \dfrac{|\Lambda_I|}{|\Lambda_{I_0}|}, \cdots\right] \\ & & \| \ \Lambda & & \end{array}$$

Λ_I is a 3x3 minor matrix of a representative matrix of Λ.

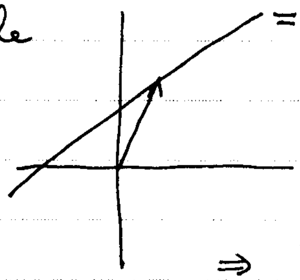
For example (ii). $V \subset \mathbb{P}^4$.

$$V^2 \longrightarrow G(2,5) \longrightarrow \mathbb{P}(\Lambda^2 \mathbb{C}^5)$$

$$\begin{pmatrix} v_{11} & v_{21} \\ v_{12} & v_{22} \\ v_{13} & v_{23} \\ \vdots & \vdots \\ v_{15} & v_{25} \end{pmatrix} \longmapsto \left\langle \begin{pmatrix} v_{11} \\ \vdots \\ v_{15} \end{pmatrix} \begin{pmatrix} v_{21} \\ \vdots \\ v_{25} \end{pmatrix} \right\rangle \longmapsto \left[1, \frac{\begin{vmatrix} v_{11}, & v_{13} \\ v_{21}. & v_{23} \end{vmatrix}}{\begin{vmatrix} v_{11}, & v_{12} \\ v_{21}, & v_{22} \end{vmatrix}}, \cdots \right].$$

Comment on subspace of $\mathbb{P}^n$

For exaple



$= \{(a_1 + tv_1, a_2 + tv_2) \mid t \in \mathbb{C}\} = V$

$\mathbb{C}^2$

$\pi^{-1}(V) \subset \overset{(z_0 \neq 0)}{\overset{\|}{U_0}} \subset \mathbb{P}^2$

$\Rightarrow$ Then $\overline{\pi^{-1}(V)}$ is a line in $\mathbb{P}^2$

$\pi^{-1}(V) = \{[(1, a_1 + tv_1, a_2 + tv_2)] : t \in \mathbb{C}\} \subset \mathbb{P}^2$ $\quad H$

$\Rightarrow \quad \pi^{-1}(V) \subset \{[(z_0, z_1, z_2)] : (a_1v_2 - a_2v_1)z_0 - v_2z_1 + v_1z_2 = 0\}$

$\Rightarrow$ Since clearly $\dim_{\mathbb{C}} \pi^{-1}(V) = 1$, $\overline{\pi^{-1}(V)} = H$ is proved to