Conversely, if the rank of the last $k \times (k+a_i-i)$ minor of a matrix representative for Λ is exactly $k-i$,

$$\Lambda = \begin{pmatrix} v_{11}, & v_{12}, & \cdots & v_{1,n-k+i-a_i}, & \overbrace{v_{1,n-k+i-a_i+1}, \cdots\cdots v_{1,n}}^{k+a_i-i} \\ v_{21}, & v_{22}, & \cdots & v_{2,n-k+i-a_i}, & v_{2,n-k+i-a_i+1}, \cdots\cdots v_{2,n} \\ \vdots & & & & \\ v_{k1}, & v_{k2}, & \cdots & v_{k,n-k+i-a_i}, & \cdots\cdots v_{k,n} \end{pmatrix}$$

$\Rightarrow$ By elementary row operations (i.e multiplications by non-zero scalars and addition of row vectors), we may have a matrix representative as follow

$$\Lambda = \begin{pmatrix} v_{11}, & \cdots & v_{1,n-k+i-a_i}, & \overbrace{0 \cdots\cdots 0}^{k+a_i-i} \\ & & & \\ v_{i1} & \cdots & v_{i\cdot}, & 0 \cdots\cdots 0 \\ * & \cdots & * & * \cdots\cdots * \\ \ddots & & & \end{pmatrix}$$

$\Rightarrow \langle v_1, \cdots v_i \rangle$ has rank i. $\Rightarrow \langle v_1 \cdots v_i \rangle \in V_{n-k+i-a_i}$

$\Rightarrow \dim(\Lambda \cap V_{n-k+i-a_i}) = i$.

$\Rightarrow$ If $\dim(\Lambda \cap V_{n-k+i-a_i}) = i$, Λ is represented by the following matrix, for exanple

$$\begin{array}{c} \uparrow \\ i \\ \downarrow \\ \uparrow \\ k-i \\ \downarrow \end{array} \left(\begin{array}{ccc|ccc} v_{11}, & \cdots & v_{1,n-k+i-a_i} & 0 & \cdots & 0 \\ & & & \vdots & & \vdots \\ & & & 0 & & 0 \\ \hline * & & * & * & & * \\ * & & * & * & & * \end{array} \right) \Rightarrow \begin{array}{c} \uparrow \\ i \\ \downarrow \\ \uparrow \\ k-i \\ \downarrow \end{array} \left(\begin{array}{cccccc|cccccc} 1 & 0 & \cdots & 0 & * \cdots & * & & & & & & \\ 0 & 1 & & 0 & * & * & & & 0 & & & \\ \vdots & & & \vdots & & & & & & & & \\ 0 & 0 & & 1 & * & * & & & & & & \\ \hline 0 & 0 & & 0 & * & * & 1 & 0 & 0 & 0 & * & * \\ 0 & 0 & & 0 & * & * & 0 & 1 & 0 & 0 & * & * \\ \vdots & \vdots & & \vdots & \vdots & \vdots & \vdots & & & 1 & \vdots & \vdots \\ 0 & 0 & & 0 & * & * & 0 & \cdots & & & * & * \end{array} \right)$$

$\hphantom{xxxxxxxxxxxxxxxx} \leftarrow n-k-a_i \rightarrow \qquad \leftarrow a_i \rightarrow$

$\Rightarrow \quad \mathbb{C}^{k(n-k-a_i)+(k-i)a_i} = \{\Lambda : \dim(\Lambda \cap V_{n-k+i-a_i}) = i\}$

i.e. $\mathbb{C}^{k(n-k-a_1)+(k-1)a_1} \cong \{\Lambda : \dim(\Lambda \cap V_{n-k+1-a_1}) = 1\} = K_1$

$\mathbb{C}^{k(n-k-a_2)+(k-2)a_2} \cong \{\Lambda : \dim(\Lambda \cap V_{n-k+2-a_2}) = 2\} = K_2$

$\vdots$

$\mathbb{C}^{k(n-k-a_k)+0} \cong \{\Lambda : \dim(\Lambda \cap V_{n-a_k}) = k\} = K_k$.

which are analytic subvarieties of $G(k,n)$.