Let $V = \{V_1 \subset V_2 \subset \cdots \subset V_n = W\}$ be a flag in W, and let $V^* = \{V_1^* \subset V_2^* \subset \cdots \subset V_n^* = W^*\}$ be the dual flag in W^* given by

$$V_i^* = \mathrm{Ann}(V_{n-i}).$$

⌈ $\underset{\overset{\shortparallel}{V_i^*}}{\mathrm{Ann}(V_{n-i})} \subset \underset{\overset{\shortparallel}{V_{i+1}^*}}{\mathrm{Ann}(V_{n-(i+1)})}$ ⌋

By linear algebra, for Λ any k-plane in W,

$$\dim(\Lambda \cap V_{n-k+i-a_i}) \geq i \Leftrightarrow \dim(*\Lambda \cap V^*_{k-i+a_i}) \geq a_i .$$

⌈ 93. 3.20. Suppose $\sigma_a', \sigma_b', \sigma_c' \subset G(k, n+1)$ and $(\sigma_a' \cdot \sigma_b') = \sum n_c' \cdot \sigma_c'$. Now we want to show that, if $\sigma_a \cdot \sigma_b = \sum n_c \cdot \sigma_c$, then $n_c = n_c'$,

$\sigma_a, \sigma_b, \sigma_c \subset G(k, n)$, $\sigma_a = i_1^{-1}(\sigma_a')$ for all a.

Let $\tilde{\sigma}_a'$ be the Poincare dual of σ_a'.
" $\tilde{\sigma}_a$ " of σ_a.

$\Rightarrow \quad \sigma_a' \cdot \sigma_b' = \sum n_c' \cdot \sigma_c' \Leftrightarrow \tilde{\sigma}_a' \wedge \tilde{\sigma}_b' = \sum n_c' \cdot \tilde{\sigma}_c'$

Applying i_1^*, we get

$$\begin{aligned} & i_1^*(\tilde{\sigma}_a' \wedge \tilde{\sigma}_b') = \sum n_c' \cdot i_1^* \tilde{\sigma}_c' \\ = \ & i_1^*(\tilde{\sigma}_a') \wedge i_1^*(\tilde{\sigma}_b') = \sum n_c' \, i_1^* \tilde{\sigma}_c' \\ = \ & \tilde{\sigma}_a \wedge \tilde{\sigma}_b = \sum n_c' \, \tilde{\sigma}_c \Leftrightarrow \sigma_a \cdot \sigma_b = \sum n_c' \sigma_c \\ \Rightarrow \ & n_c' = n_c . \end{aligned}$$