

$$\Rightarrow \sigma_1(V_3) = \{ \omega_1 \wedge \omega_2 \in \Lambda^2 \mathbb{C}^6 \mid \omega_1 \wedge \omega_2 \wedge v_1 \wedge v_2 \wedge v_3 \wedge v_4 = 0 \}$$

where  $V_3 = \langle v_1, v_2, v_3, v_4 \rangle$ .

$\Rightarrow V_3 \mapsto \sigma_1(V_3)$  is the Plücker embedding

Thus  $\{D_V\}$  is not a linear system, for

$$\sigma(V_3) + \sigma(V_3') = \sigma(V_3'')$$

but, as we saw, since, in  $|\sigma_1| = \mathbb{P}(\Lambda^2 \mathbb{C}^6)$ ,

$G(4,6)$  is not linear <sup>subspace</sup>  $\Rightarrow \{ \sigma_1(V_3) \}$  is

not a linear system. More precisely,

$$\{ \sigma_1(V_3) \} = G(4,6) \not\cong \mathbb{P}^k.$$

□

However, since the Schubert cycle

$$\sigma_{2,2,2,1}(V_2, V_4) = \{ V_3 \subset \mathbb{P}^5 : V_2 \subset V_3 \subset V_4 \}$$

in  $G(4,6)$  has degree

$$\#(\sigma_{2,2,2,1} \cdot \sigma_1)_{G(4,6)} = 1$$

under the dual Plücker embedding, the family

$$\{D_V\}_{V \in \sigma_{2,2,2,1}(V_2, V_4)}$$

of divisors on  $A$  is in fact a pencil.

$$\begin{aligned} \sigma_{2,2,2,1} &= \{ \Lambda \subset \mathbb{C}^6 \mid \dim(\Lambda \cap V_{2+i-a_i}) \geq i \} \\ &= \{ V_3 \subset \mathbb{P}^5 \mid V_2 \subset V_3 \subset V_4 \}. \end{aligned}$$

$$\#(\sigma_{2,2,2,1} \cdot \sigma_1)_{G(4,6)} = 1, \text{ since } b_{k-i+1} = n-k-a_i.$$

$$\text{i.e. } b_{5-i} = 2 - a_i.$$

Since  $\tilde{\Phi}(\sigma_1(V_3))$  is a hyperplane <sup>section</sup> in  $\mathbb{P}^2(\Lambda^4 \mathbb{C}^6)$  by P208,