

$$Y = \text{span} \quad \Lambda^{n,m}(V) = \text{linear span.}$$

$$Y \left(\begin{array}{l} Y \in \Lambda^{n,m}(V) \Rightarrow Y = \alpha \otimes \beta \\ \text{since } \alpha \in \Lambda^n(U), \beta \in \Lambda^m(U) \end{array} \right.$$

$$Y \cdot \Theta \left(\begin{array}{l} \Theta = \alpha' \otimes \beta' \end{array} \right.$$

$$\alpha \otimes \beta$$

$$\begin{aligned} & (\alpha \otimes \beta) \cdot (\alpha' \otimes \beta') \\ &= (\alpha \wedge \alpha') \otimes (\beta \wedge \beta') \end{aligned}$$

$$\Rightarrow Y \cdot \Theta = (\alpha \wedge \alpha') \otimes (\beta \wedge \beta')$$

$$\begin{aligned} &= \frac{1}{n!m!p!q!} \sum_{\sigma \in S(n+p)} \varepsilon_{\sigma} \alpha(u_{\sigma(1)} \dots u_{\sigma(n)}) \alpha'(u_{\sigma(n+1)} \dots u_{\sigma(n+p)}) \\ &\quad \times \sum_{\rho \in S(m+q)} \varepsilon_{\rho} \beta(v_{\rho(1)} \dots v_{\rho(m)}) \beta'(v_{\rho(m+1)} \dots v_{\rho(m+q)}) \end{aligned}$$

= result as have a tensor product of unimodular tensors.