with distribution coefficients T_I defined by

$$T_I(\varphi) = \pm T(\varphi\, dx_{I^\circ})$$

for $\varphi \in C_c^\infty(\mathbb{R}^n)$. Here I° is the index set defined by $* dx_I = \pm dx_{I^\circ}$.

「 $T \in \mathcal{D}^q(\mathbb{R}^n) \Rightarrow T : A_c^{n-q}(\mathbb{R}^n) \longrightarrow \mathbb{C}$.

$T(dx_J) \in \mathbb{C}$ where $dx_J = dx_{j_1} \wedge \cdots \wedge dx_{j_{n-q}}$.
If we let $T = \sum_{\# I = q} T_I\, dx_I$,

$$T(\varphi\, dx_J) = \sum_{\# I = q} \pm T_I(\varphi)\, dx_I \wedge dx_J = \sum_{\# I = q} T_I(\varphi)\, dx.$$

For example, $n=3$,
$$T = T_{12}\, dx_1 \wedge dx_2 + T_{21}\, dx_2 \wedge dx_1 + T_{23}\, dx_2 \wedge dx_3 + T_{32}\, dx_3 \wedge dx_2 + T_{13}\, dx_1 \wedge dx_3 + T_{31}\, dx_3 \wedge dx_1 \in A_c^1(\mathbb{R}^3).$$

$$\begin{aligned} T(\varphi\, dx_1) &= T_{23}(\varphi)\, dx_2 \wedge dx_3 \wedge dx_1 + T_{32}(\varphi)\, dx_3 \wedge dx_2 \wedge dx_1 \\ &= \big(T_{23}(\varphi) - T_{32}(\varphi)\big)\, dx_1 \wedge dx_2 \wedge dx_3 \end{aligned}$$

$\Rightarrow T(\varphi\, dx_1) = T_{23}(\varphi) - T_{32}(\varphi)$.
$\Rightarrow$ We assume that $I = \{ i_1, \dots i_q \}$ with $i_1 < i_2 < \cdots < i_q$. 」

The smoothing
$$T_\epsilon = \sum_I (T_I)_\epsilon\, dx_I$$

satisfies
$$T_\epsilon(\varphi) \longrightarrow T(\varphi) \quad \text{as } \epsilon \to 0, \quad \varphi \in A_c^{n-q}(\mathbb{R}^n),$$
and
$$dT_\epsilon = d(T_\epsilon).$$

「 Let $\varphi = \psi\, dx_1 \wedge \cdots \wedge dx_{n-q}$. $\psi \in C_c^\infty(\mathbb{R}^n)$. $\Rightarrow T_\epsilon(\varphi) =$