

Elektrostatik Sınır Koşulları

$$\oint_C \vec{E} \cdot d\vec{l} = \oint_{abcd} \vec{E} \cdot d\vec{l} = 0$$

$$\oint_{abcd} \vec{E} \cdot d\vec{l} = \int_{ab} \vec{E} \cdot d\vec{l} + \int_{bc} \vec{E} \cdot d\vec{l} + \int_{cd} \vec{E} \cdot d\vec{l} + \int_{da} \vec{E} \cdot d\vec{l} = 0$$

$$\oint_{abcd} \vec{E} \cdot d\vec{l} = \int_{ab} \vec{E}_2 \cdot d\vec{l} + \int_{cd} \vec{E}_1 \cdot d\vec{l} = 0$$

$$\oint_{abcd} \vec{E} \cdot d\vec{l} = \int_{ab} \vec{E}_{2t} \cdot d\vec{l} + \int_{cd} \vec{E}_{1t} \cdot d\vec{l} = 0$$

$$|\vec{E}_{2t}| \Delta w - |\vec{E}_{1t}| \Delta w = 0$$

$$|\vec{E}_{2t}| = |\vec{E}_{1t}|$$

$$\vec{E}_{2t} = \vec{E}_{1t}$$

Manyetostatik Sınır Koşulları

$$\oint_C \vec{H} \cdot d\vec{l} = \oint_{abcd} \vec{H} \cdot d\vec{l} = I$$

$$\oint_{abcd} \vec{H} \cdot d\vec{l} = \int_{ab} \vec{H} \cdot d\vec{l} + \int_{bc} \vec{H} \cdot d\vec{l} + \int_{cd} \vec{H} \cdot d\vec{l} + \int_{da} \vec{H} \cdot d\vec{l} = I = |\vec{J}_s| \Delta w$$

$$\oint_{abcd} \vec{H} \cdot d\vec{l} = \int_{ab} \vec{H}_2 \cdot d\vec{l} + \int_{cd} \vec{H}_1 \cdot d\vec{l} = |\vec{J}_s| \Delta w$$

$$\oint_{abcd} \vec{H} \cdot d\vec{l} = \int_{ab} \vec{H}_{2t} \cdot d\vec{l} + \int_{cd} \vec{H}_{1t} \cdot d\vec{l} = |\vec{J}_s| \Delta w$$

$$|\vec{H}_{2t}| \Delta w - |\vec{H}_{1t}| \Delta w = |\vec{J}_s| \Delta w$$

$$|\vec{H}_{2t}| - |\vec{H}_{1t}| = |\vec{J}_s|$$

$$\oint_S \bar{D} \cdot d\bar{s} = Q$$

$$\oint_S \bar{D} \cdot d\bar{s} = \int_{üst} \bar{D} \cdot d\bar{s} + \int_{yan} \bar{D} \cdot d\bar{s} + \int_{alt} \bar{D} \cdot d\bar{s} = Q = \rho_s \Delta s$$

$$\oint_S \bar{D} \cdot d\bar{s} = \int_{üst} \bar{D}_1 \cdot d\bar{s} + \int_{alt} \bar{D}_2 \cdot d\bar{s} = \rho_s \Delta s$$

$$\oint_S \bar{D} \cdot d\bar{s} = \int_{üst} \bar{D}_{1n} \cdot d\bar{s} + \int_{alt} \bar{D}_{2n} \cdot d\bar{s} = \rho_s \Delta s$$

$$|\bar{D}_{1n}| \Delta s - |\bar{D}_{2n}| \Delta s = \rho_s \Delta w$$

$$|\bar{D}_{1n}| - |\bar{D}_{2n}| = \rho_s$$

$$\oint_S \bar{B} \cdot d\bar{s} = 0$$

$$\oint_S \bar{B} \cdot d\bar{s} = \int_{üst} \bar{B} \cdot d\bar{s} + \int_{yan} \bar{B} \cdot d\bar{s} + \int_{alt} \bar{B} \cdot d\bar{s} = 0$$

$$\oint_S \bar{B} \cdot d\bar{s} = \int_{üst} \bar{B}_1 \cdot d\bar{s} + \int_{alt} \bar{B}_2 \cdot d\bar{s} = 0$$

$$\oint_S \bar{B} \cdot d\bar{s} = \int_{üst} \bar{B}_{1n} \cdot d\bar{s} + \int_{alt} \bar{B}_{2n} \cdot d\bar{s} = 0$$

$$|\bar{B}_{1n}| \Delta s - |\bar{B}_{2n}| \Delta s = 0$$

$$|\bar{B}_{1n}| = |\bar{B}_{2n}|$$

$$\bar{B}_{1n} = \bar{B}_{2n}$$

	Alan Şiddeti	Akı Yoğunluğu
Elektrik	\bar{E} (V/m) $\oint_C \bar{E} \cdot d\bar{l} = 0$ (Fiziksel Gerçek; Enerjinin Korunumu) $\bar{E}_{1t} = \bar{E}_{2t}$	\bar{D} (C/m ²) $\oint_S \bar{D} \cdot d\bar{s} = Q$ (Deneysel; Gauss Yasası'nın Genel Hali) $ \bar{D}_{1n} - \bar{D}_{2n} = \rho_s$
Manyetik	\bar{H} (A/m) $\oint_C \bar{H} \cdot d\bar{l} = I$ (Deneysel; Amperé Yasası'nın Genel Hali) $ \bar{H}_{1t} - \bar{H}_{2t} = \bar{J}_s $	\bar{B} (Wb/m ²) $\oint_S \bar{B} \cdot d\bar{s} = 0$ (Fiziksel Gerçek; Doğada İzole Manyetik Yük Bulunmaması) $\bar{B}_{1n} = \bar{B}_{2n}$
	<i>Teğet Bileşen Vektörleri</i>	<i>Normal Bileşen Vektörleri</i>