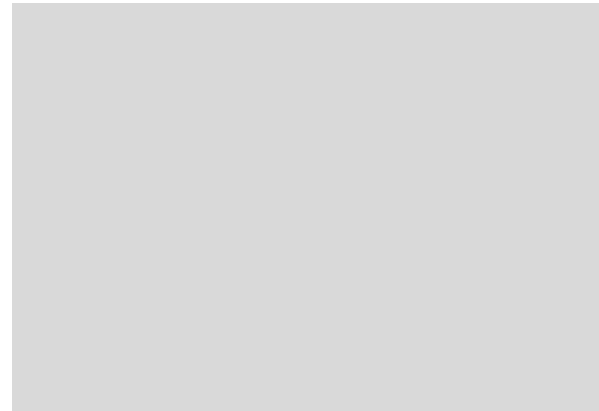
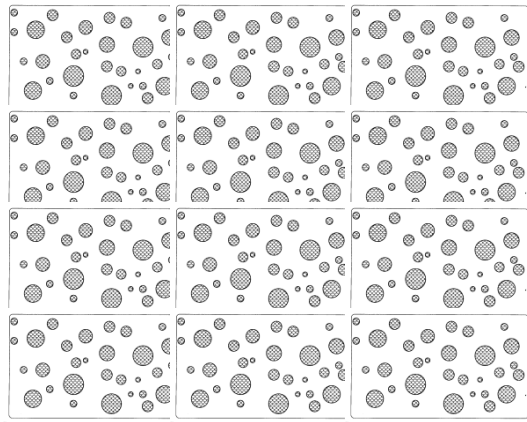


مبنای نظری قواعد ترکیب

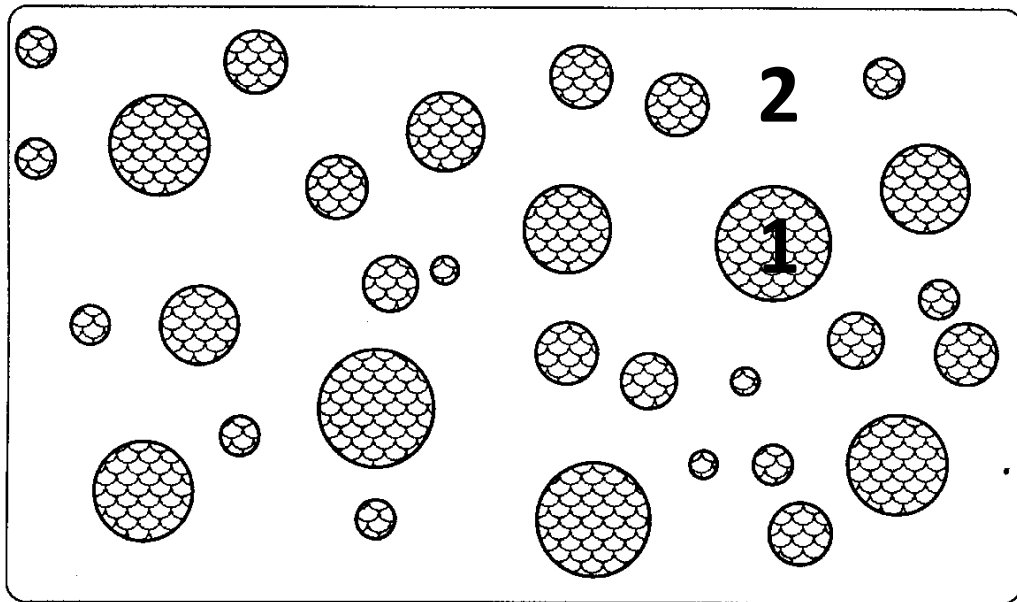
دکتر مهرداد ساویز

درس بیوالکترومغناطیس



$$\vec{J}_{tot1} = j\omega\epsilon_0\epsilon_{rc1}\vec{E}_1$$
$$\vec{J}_{tot2} = j\omega\epsilon_0\epsilon_{rc2}\vec{E}_2$$

$$\langle \vec{J}_{tot} \rangle = j\omega\epsilon_0\epsilon_{rc(eff)} \langle \vec{E} \rangle$$



$$\nu_1 + \nu_2 = 1$$

$$\langle \vec{E} \rangle = \nu_1 \langle \vec{E}_1 \rangle + \nu_2 \langle \vec{E}_2 \rangle$$

$$\langle \vec{J}_{tot} \rangle = \nu_1 \langle \vec{J}_{tot1} \rangle + \nu_2 \langle \vec{J}_{tot2} \rangle$$

$$\langle \vec{E} \rangle = \nu_1 \langle \vec{E}_1 \rangle + \nu_2 \langle \vec{E}_2 \rangle$$

$$\epsilon_{rc(eff)} \langle \vec{E} \rangle = \nu_1 \epsilon_{rc1} \langle \vec{E}_1 \rangle + \nu_2 \epsilon_{rc2} \langle \vec{E}_2 \rangle$$

$$1 = \nu_1 F_1 + \nu_2 F_2$$

$$\epsilon_{rc(eff)} = \nu_1 \epsilon_{rc1} F_1 + \nu_2 \epsilon_{rc2} F_2$$

نتایج نهایی

$$\varepsilon_{rc(eff)} = \varepsilon_{rc2} + (\varepsilon_{rc1} - \varepsilon_{rc2})\nu_1 F_1$$

$$(\varepsilon_{rc(eff)} - \varepsilon_{rc1})\nu_1 F_1 + (\varepsilon_{rc(eff)} - \varepsilon_{rc2})\nu_2 F_2 = 0$$

