

60. (a) Using Eq. 32-37 but noting that the capacitor is being *discharged*, we have

$$\frac{d|\vec{E}|}{dt} = -\frac{i}{\varepsilon_0 A} = -8.8 \times 10^{15}$$

where $A = (0.0080)^2$ and SI units are understood.

(b) Assuming a perfectly uniform field, even so near to an edge (which is consistent with the fact that fringing is neglected in §32-10), we follow part (a) of Sample Problem 32-4 and relate the (absolute value of the) line integral to the portion of displacement current enclosed.

$$\begin{aligned} \left| \oint \vec{B} \cdot d\vec{s} \right| &= \mu_0 i_{d,\text{enc}} \\ &= \mu_0 \frac{W H}{L^2} i \\ &= 5.9 \times 10^{-7} \text{ Wb/m} . \end{aligned}$$