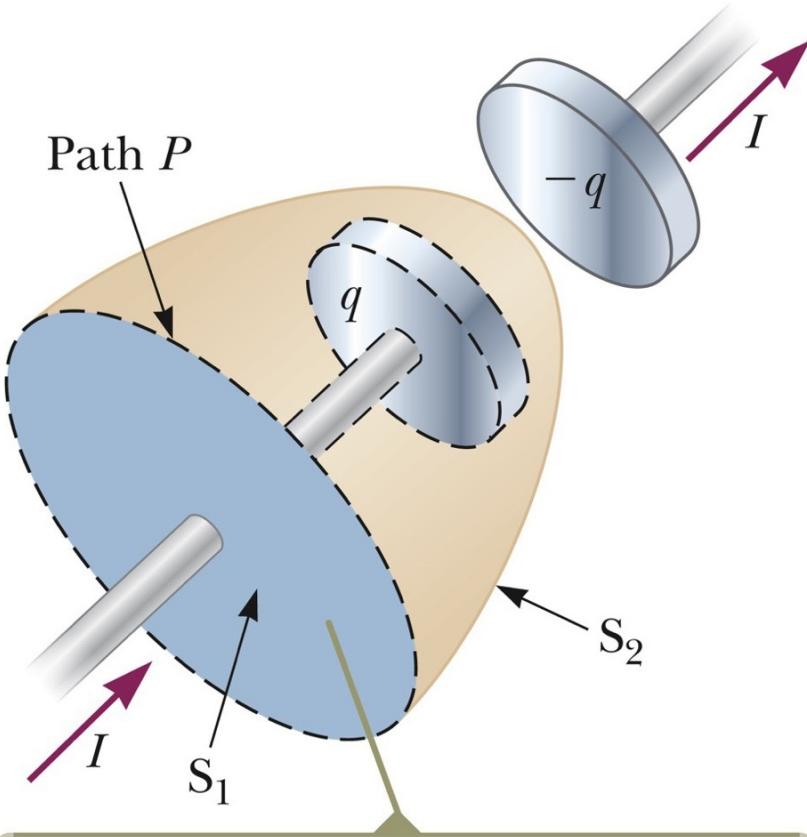


(NASA, ESA, J. Hester, A. Loll (ASU))

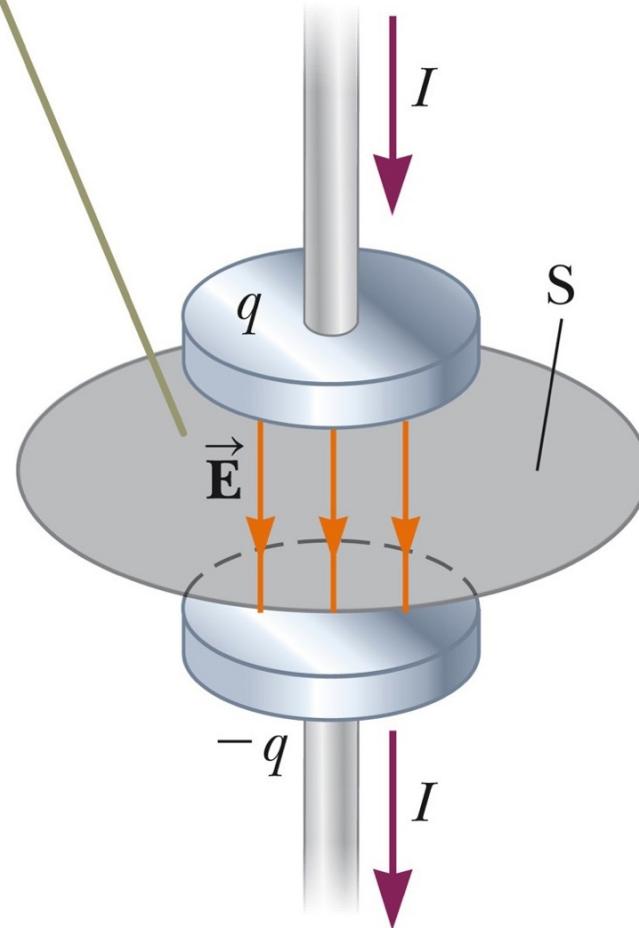


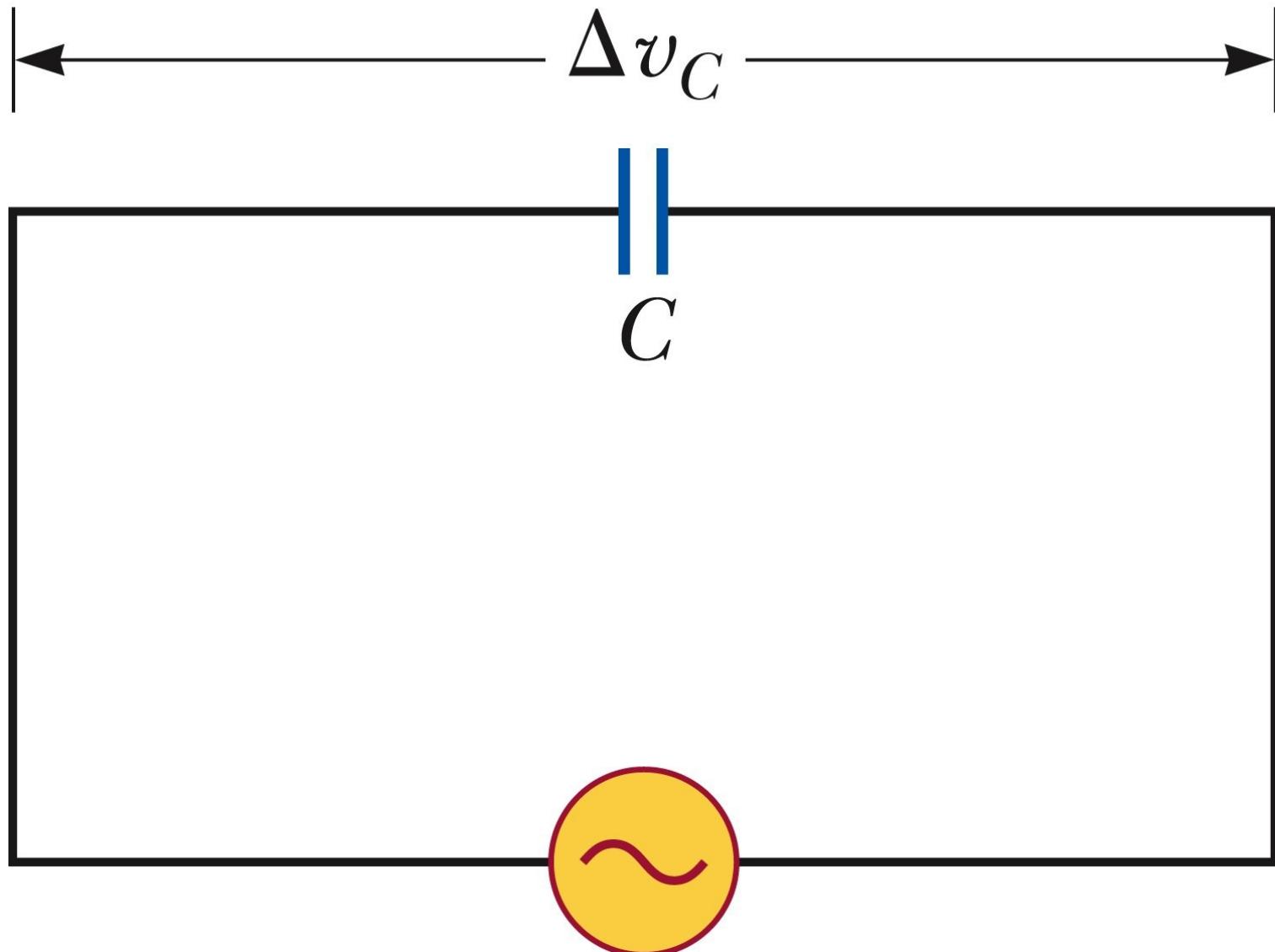
The conduction current  $I$  in the wire passes only through  $S_1$ , which leads to a contradiction in Ampère's law that is resolved only if one postulates a displacement current through  $S_2$ .

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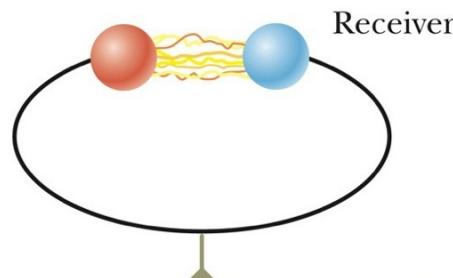
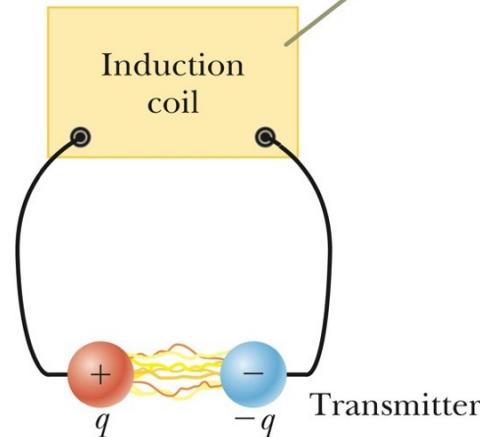
The electric field lines between the plates create an electric flux through surface S.



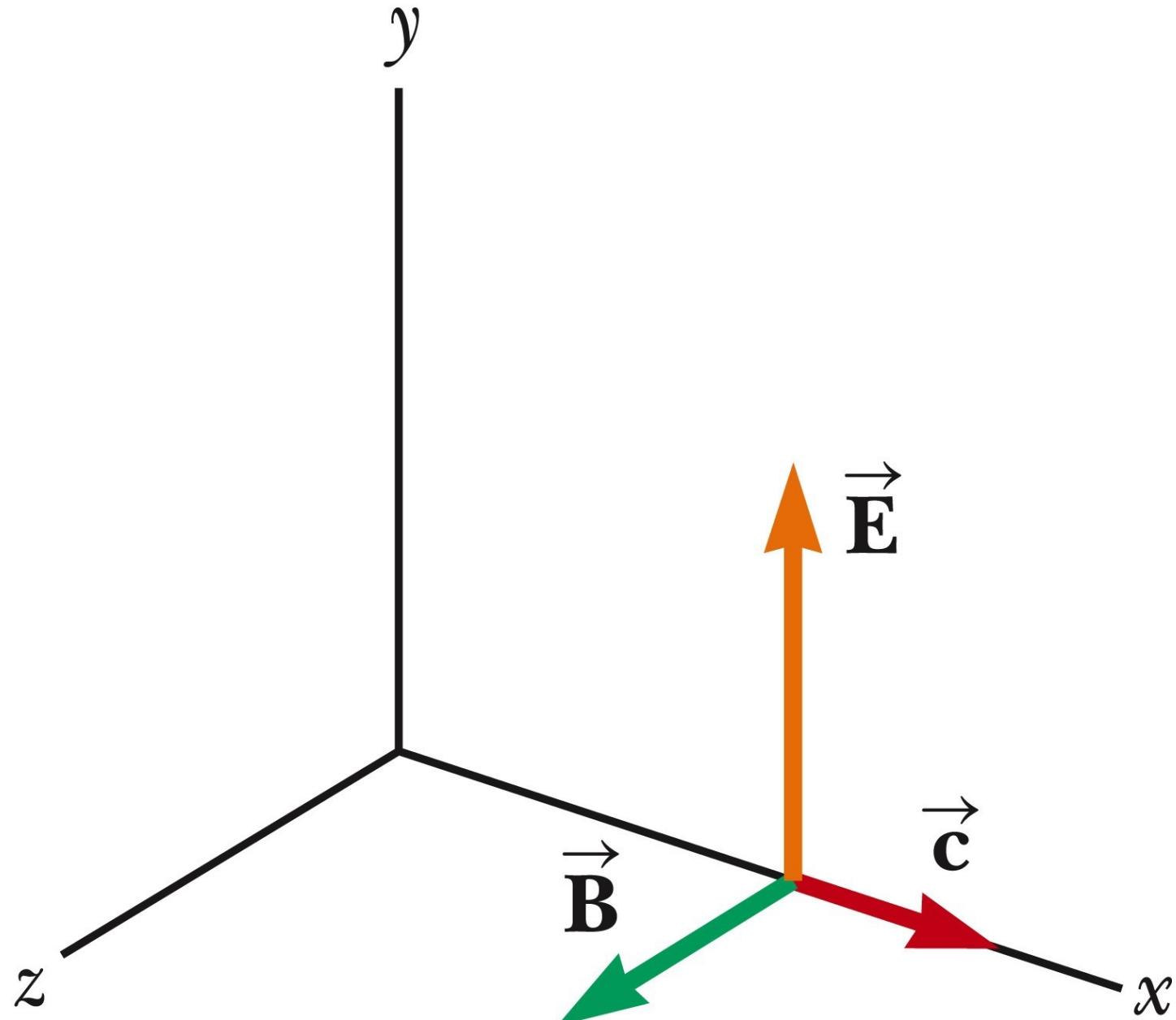


$$\Delta V_{\max} \sin \omega t$$

The transmitter consists of two spherical electrodes connected to an induction coil, which provides short voltage surges to the spheres, setting up oscillations in the discharge between the electrodes.



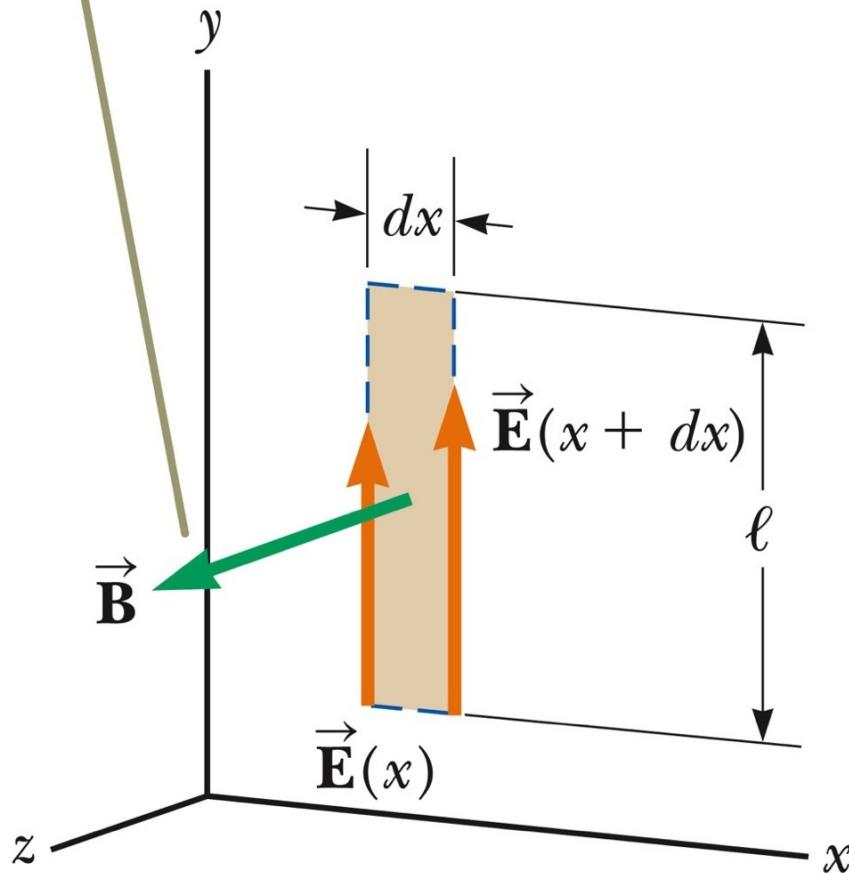
The receiver is a nearby loop of wire containing a second spark gap.



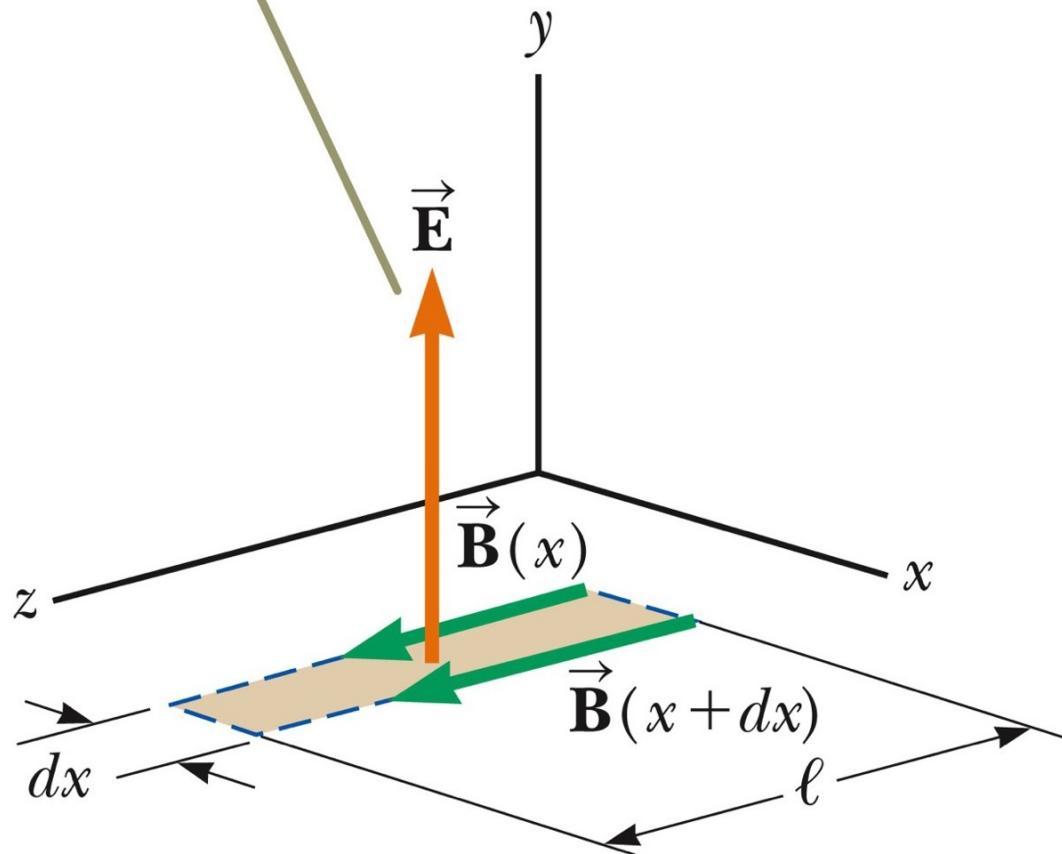
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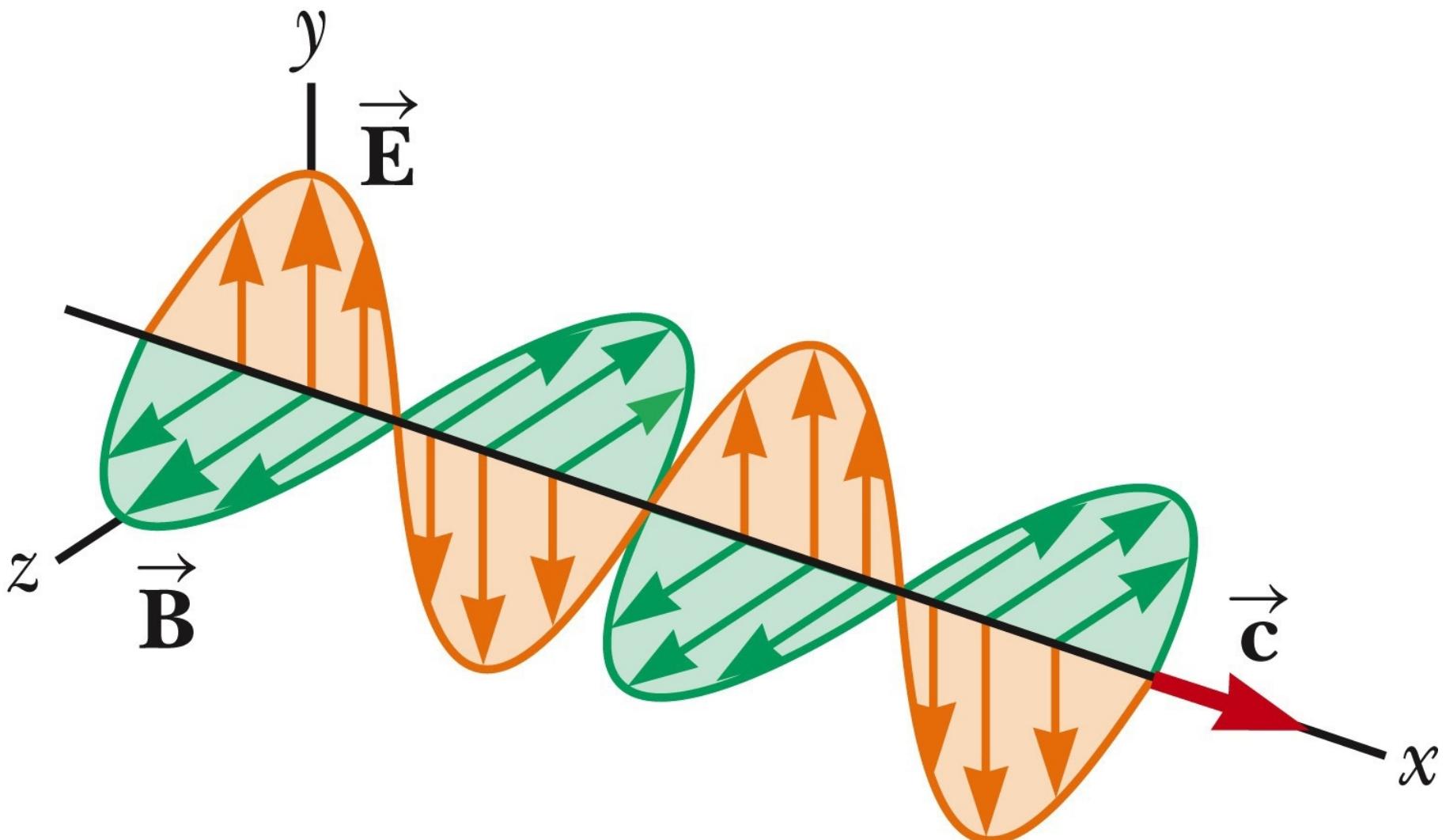


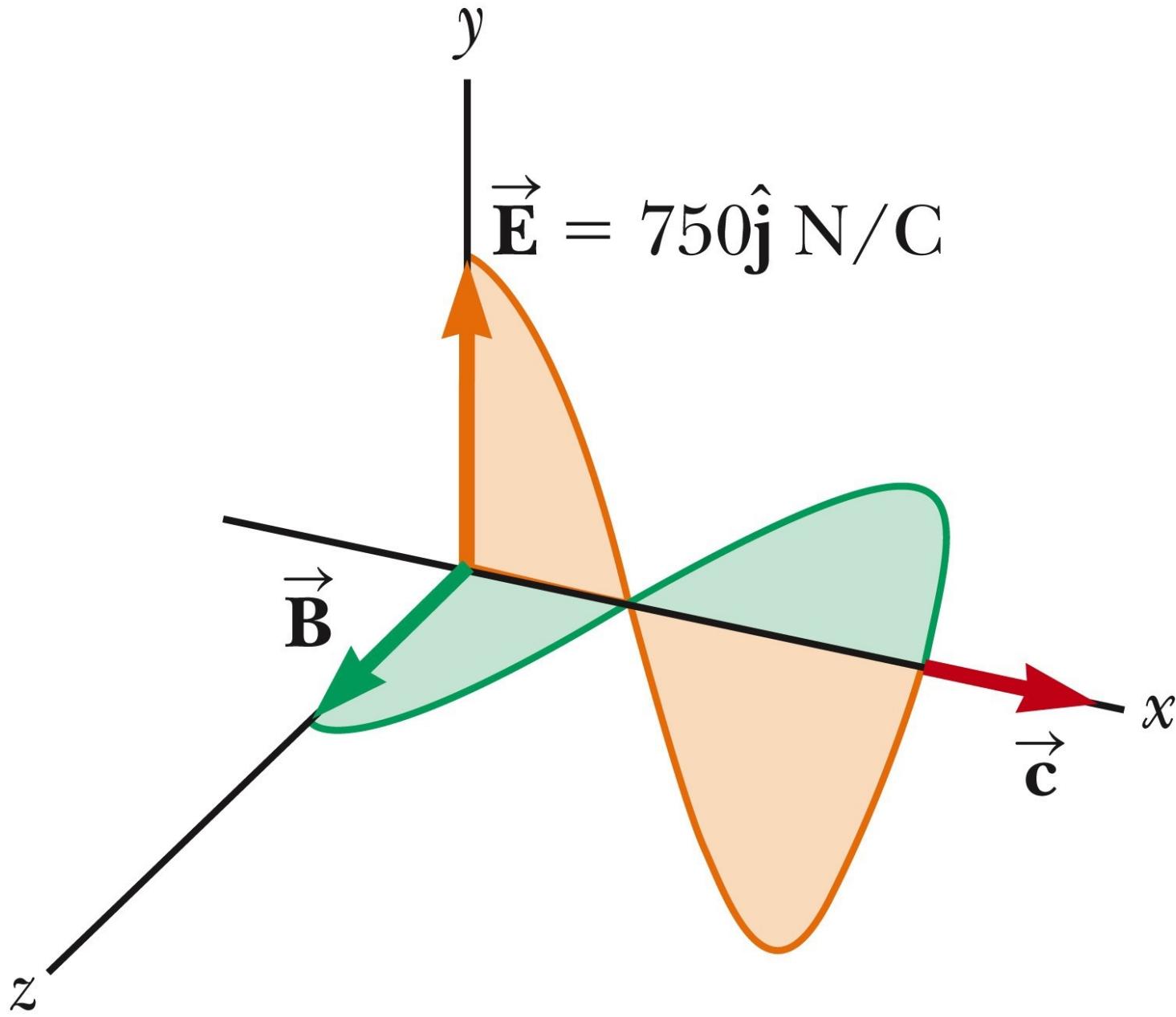
According to Equation 34.11,  
this spatial variation in  $\vec{E}$  gives  
rise to a time-varying magnetic  
field along the  $z$  direction.

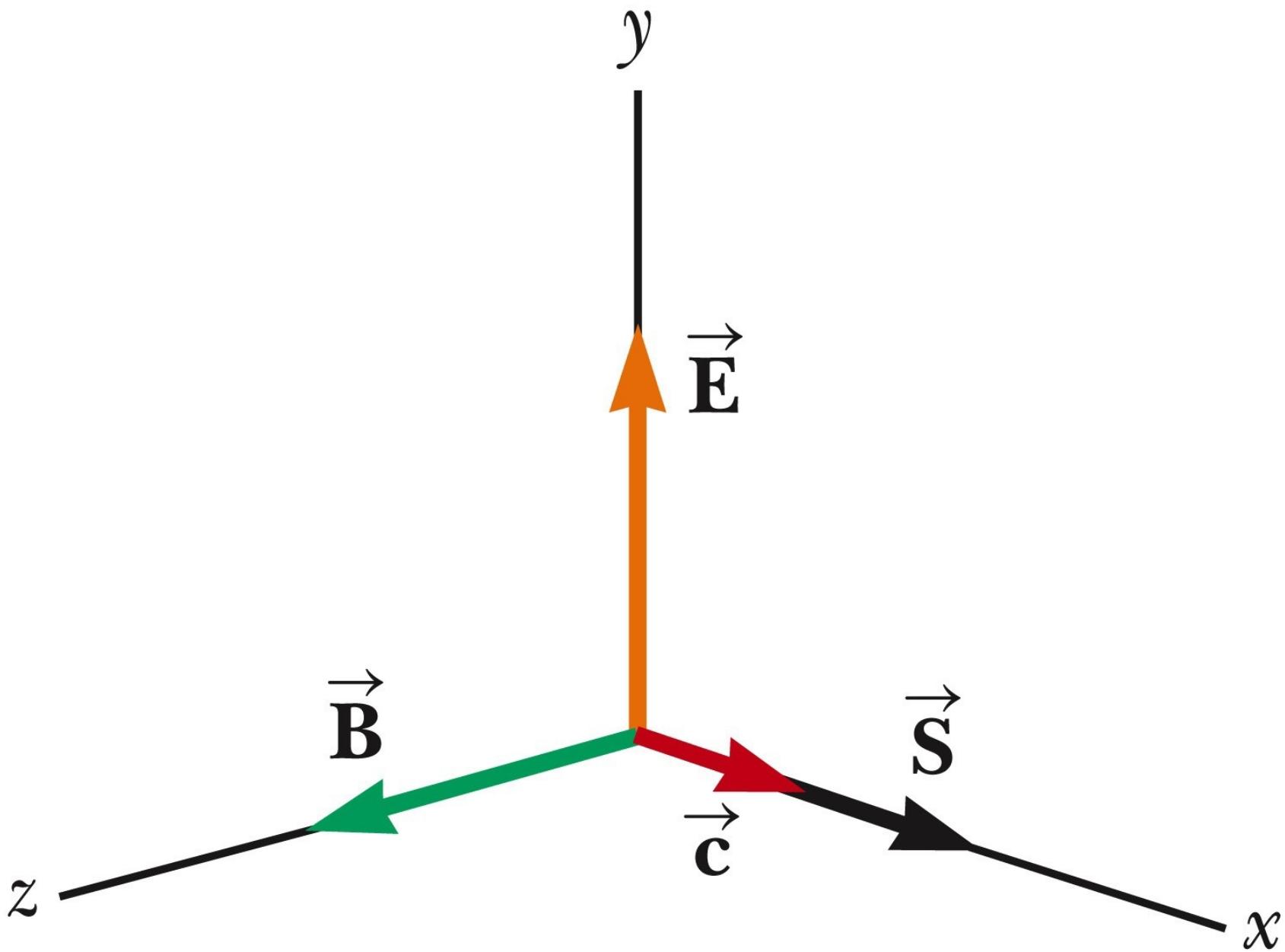


According to Equation 34.14, this spatial variation in  $\vec{B}$  gives rise to a time-varying electric field along the  $y$  direction.

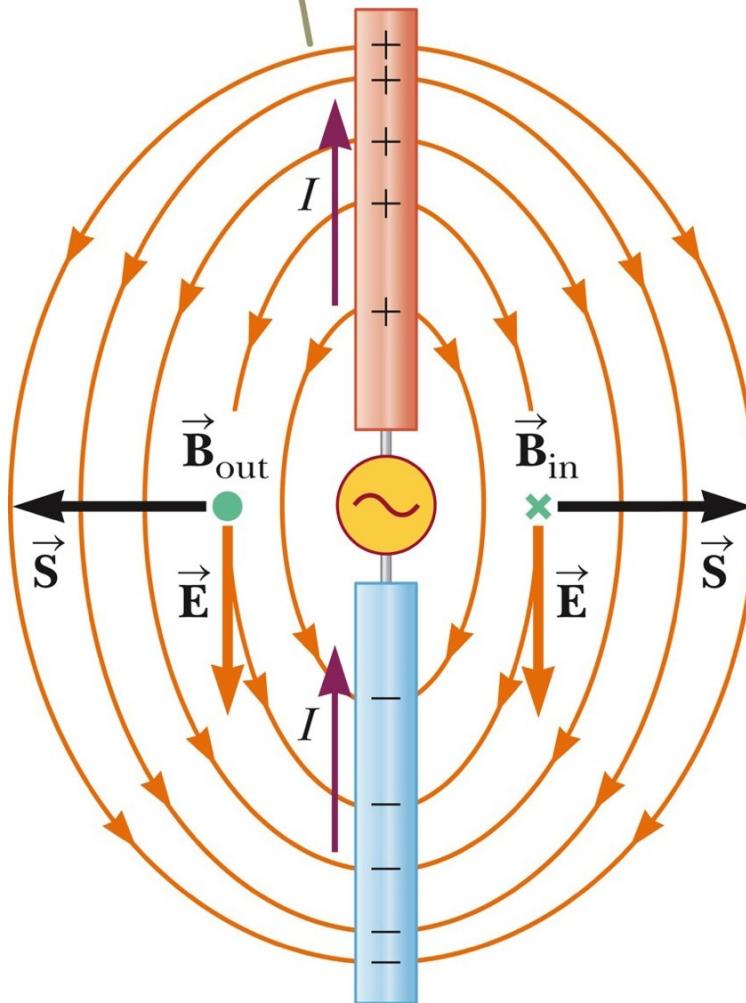




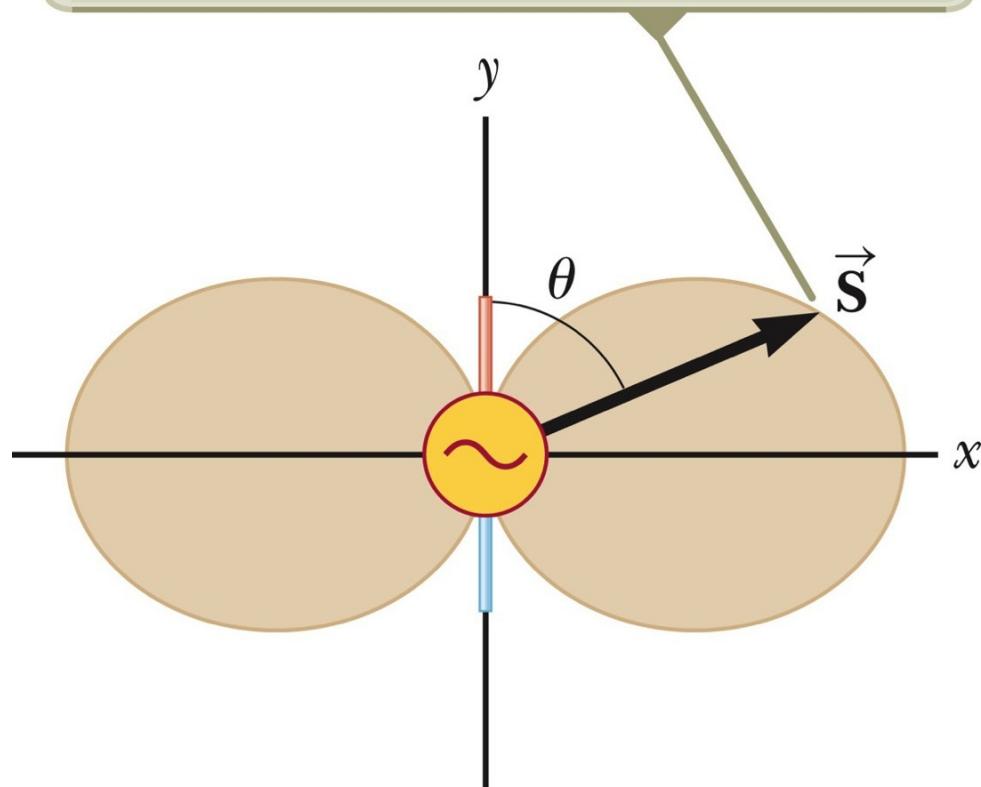




The electric field lines resemble those of an electric dipole (shown in Fig. 23.20).



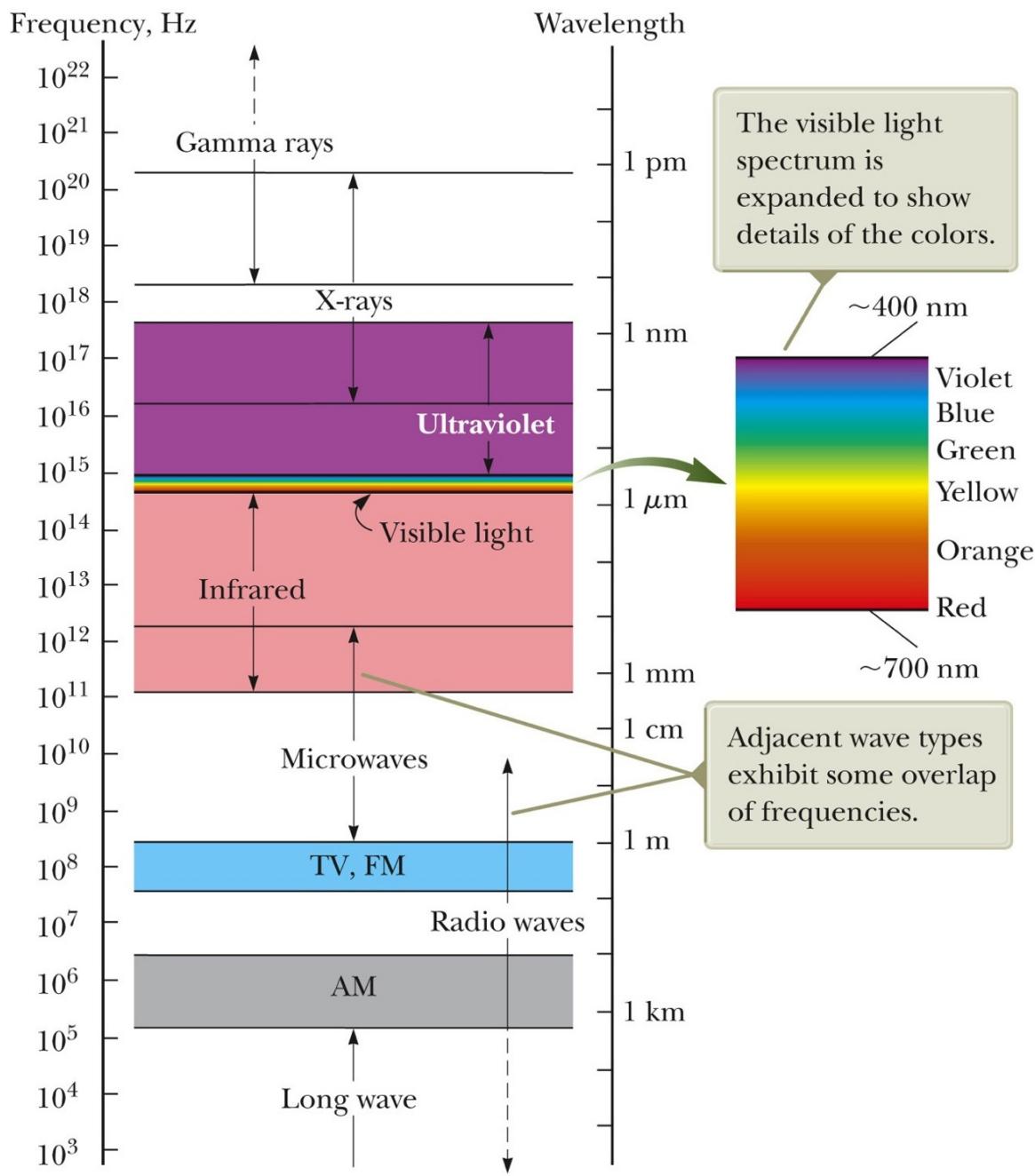
The distance from the origin to a point on the edge of the tan shape is proportional to the magnitude of the Poynting vector and the intensity of radiation in that direction.



**Table 34.1 Approximate Correspondence Between Wavelengths of Visible Light and Color**

<b>Wavelength Range (nm)</b>	<b>Color Description</b>
400–430	Violet
430–485	Blue
485–560	Green
560–590	Yellow
590–625	Orange
625–700	Red

*Note:* The wavelength ranges here are approximate. Different people will describe colors differently.

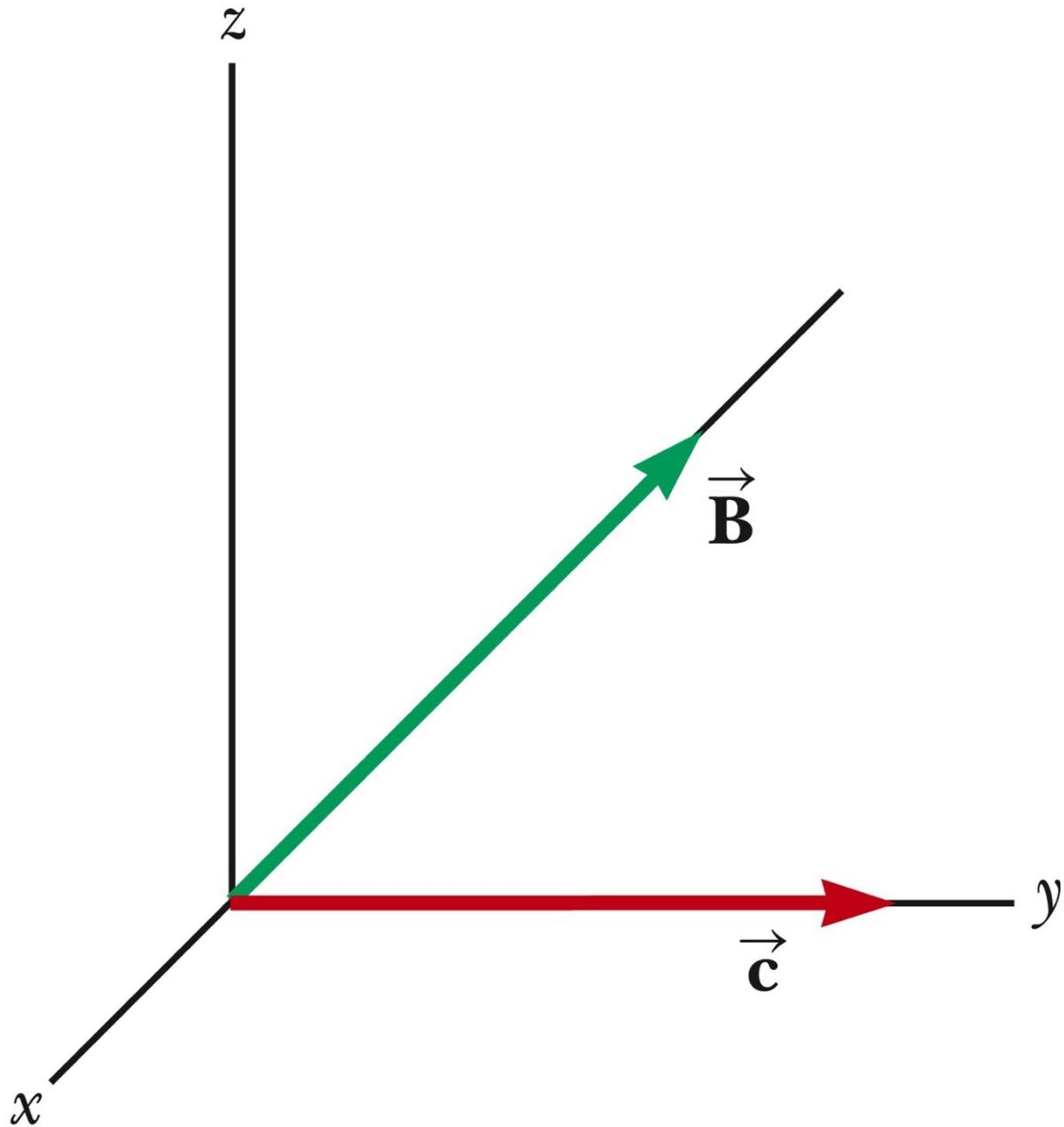


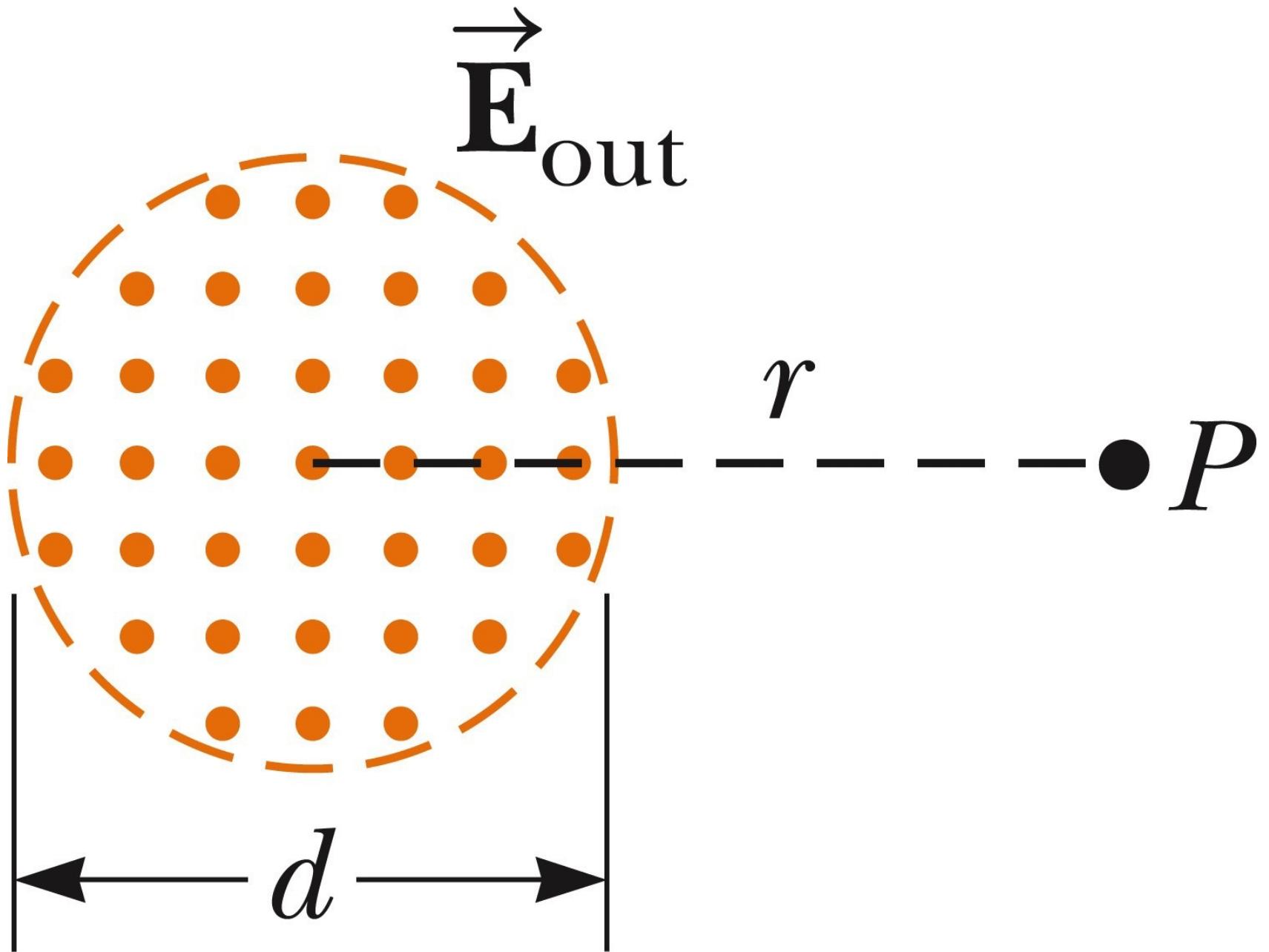


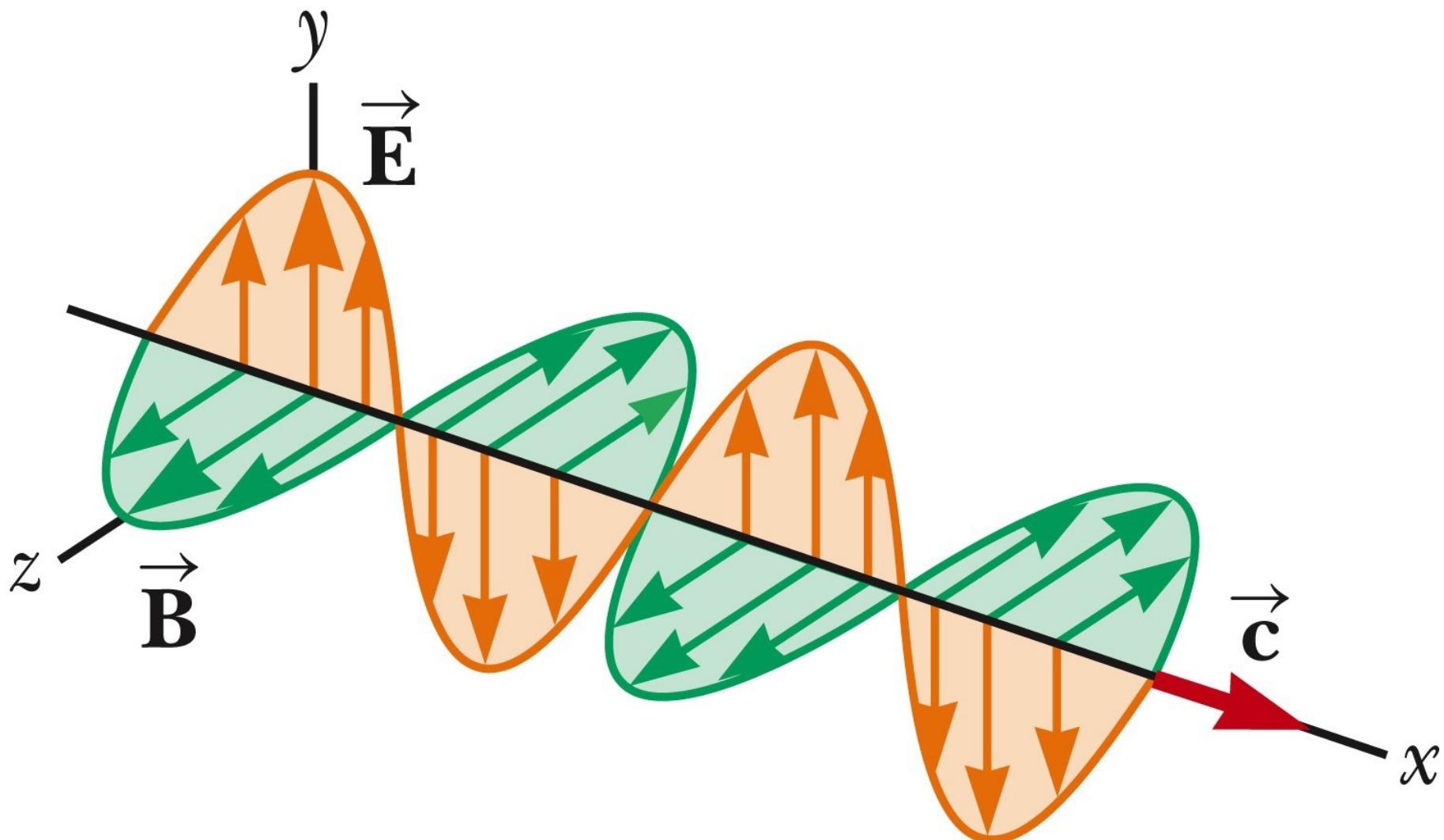
Raymond A. Serway



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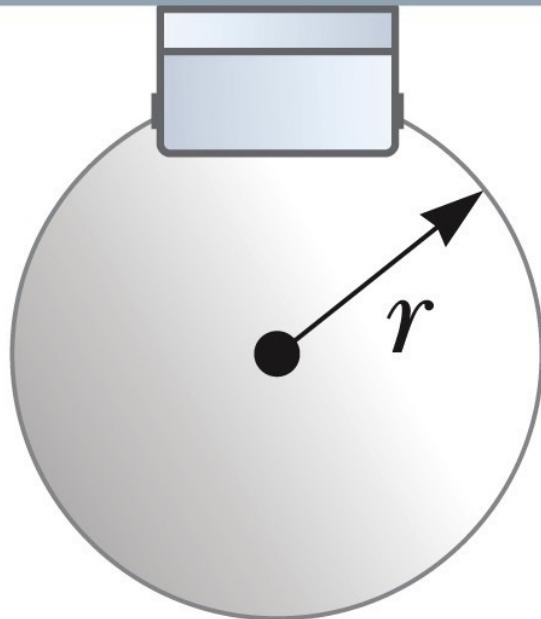




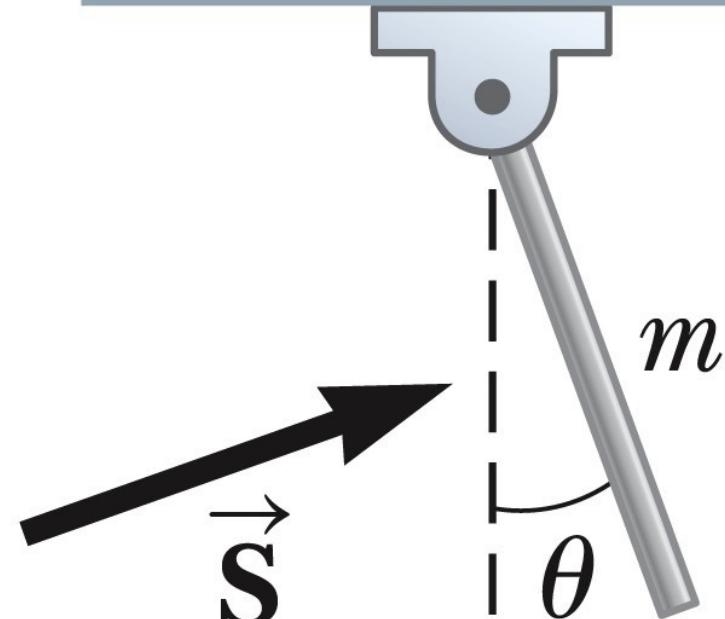




Philippe Plailly/SPL/Photo Researchers, Inc.



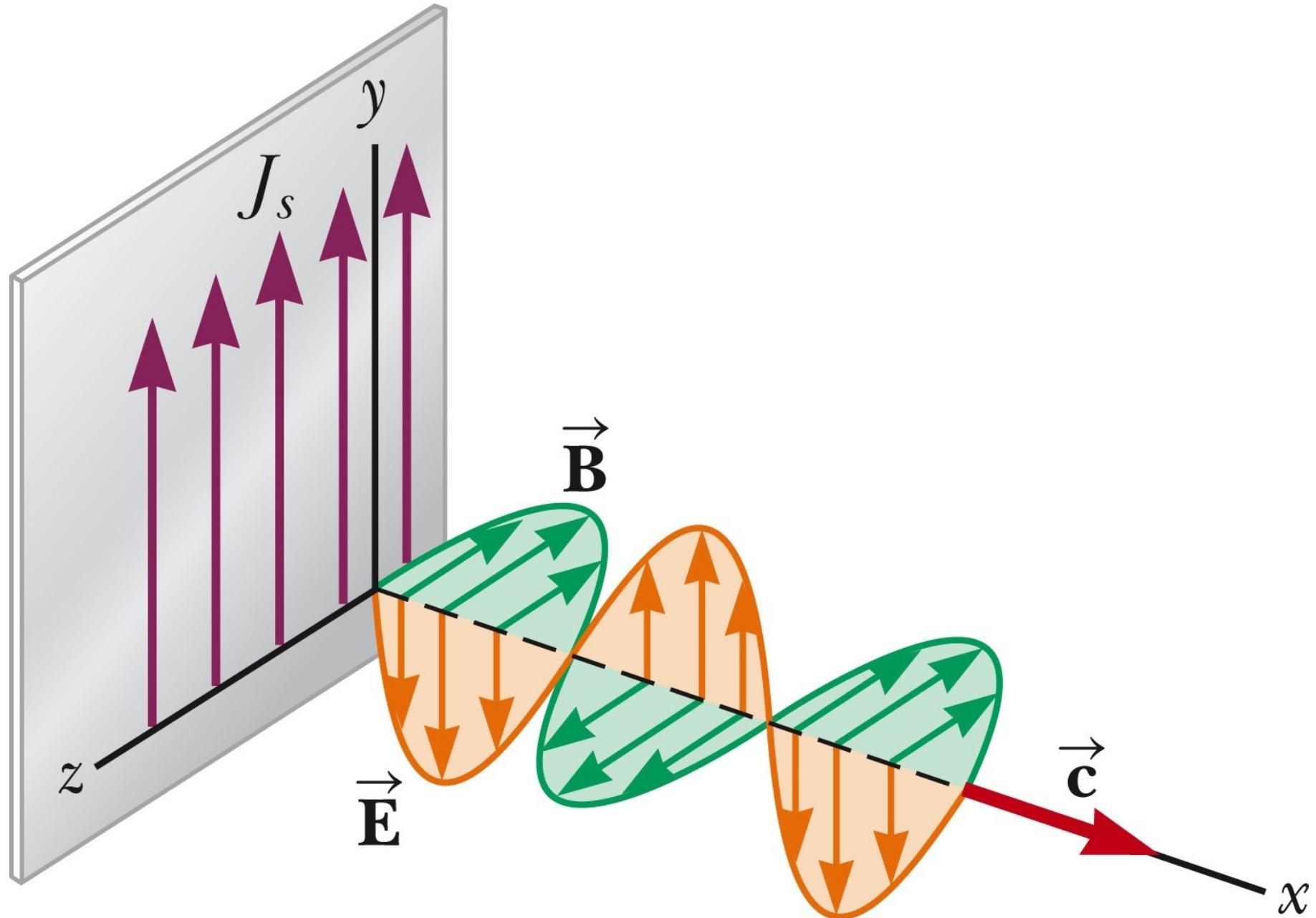
Front view

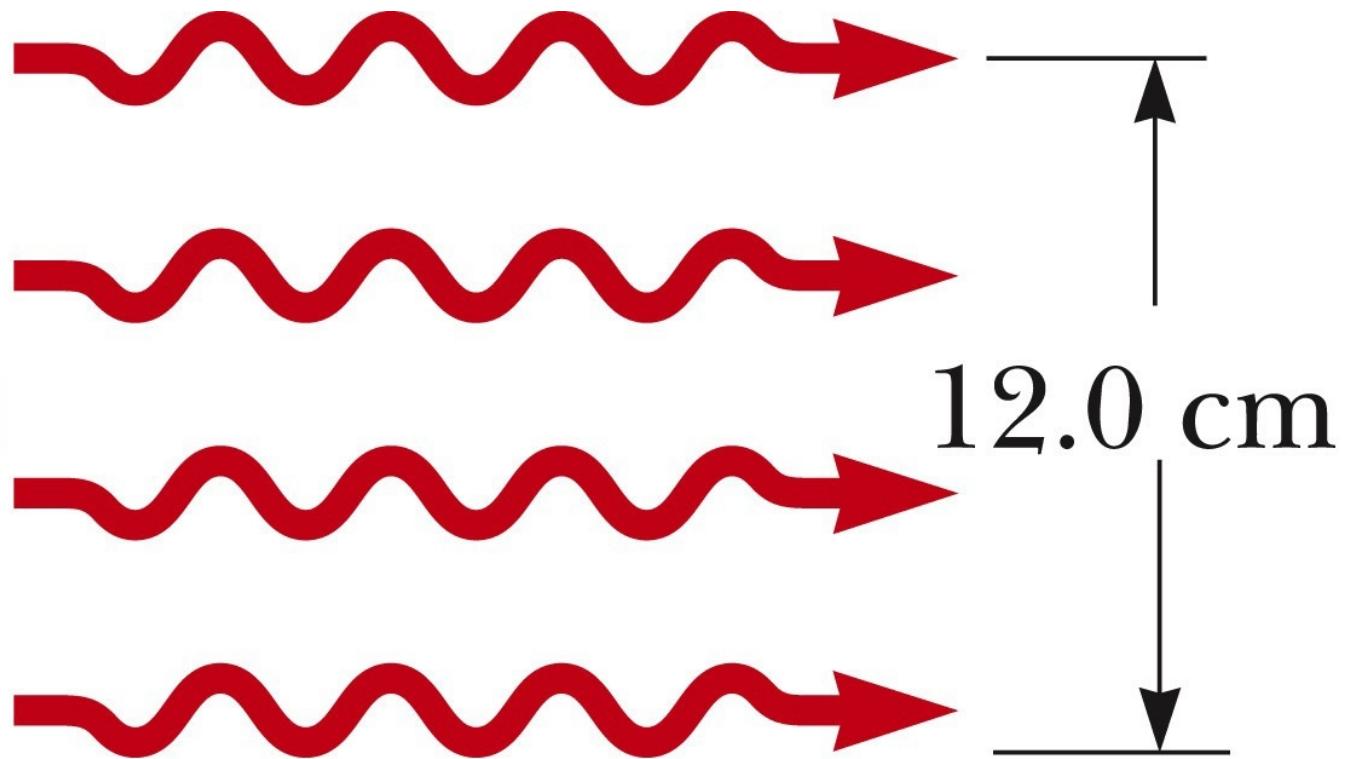
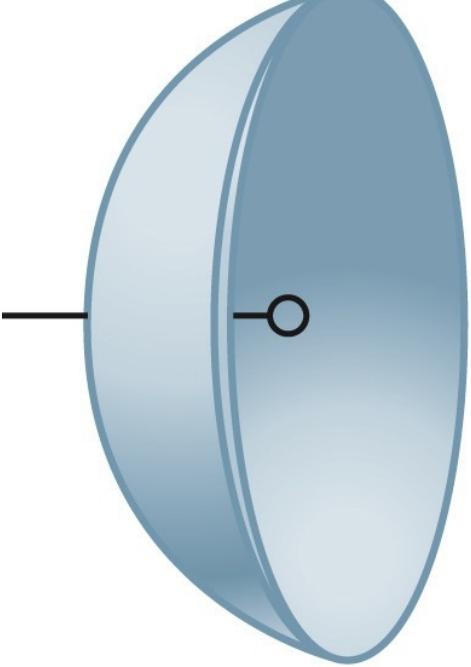


Side view

a

b





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