Sample slides and recommendations

- **Font type:** Sans
- **Font size for content text and formulae:** 18 pt and above
- **Font size for title (Title slide):** 36 pt and above
- **Font size for figure captions:** 16 pt and above
- **Maximum no. of slides (excluding Title, Reference and Thank you):** 6
- **Maximum size of file:** 5 MB

You can put logos here as well

Title

Authors

Affiliation

Biot-Savart law

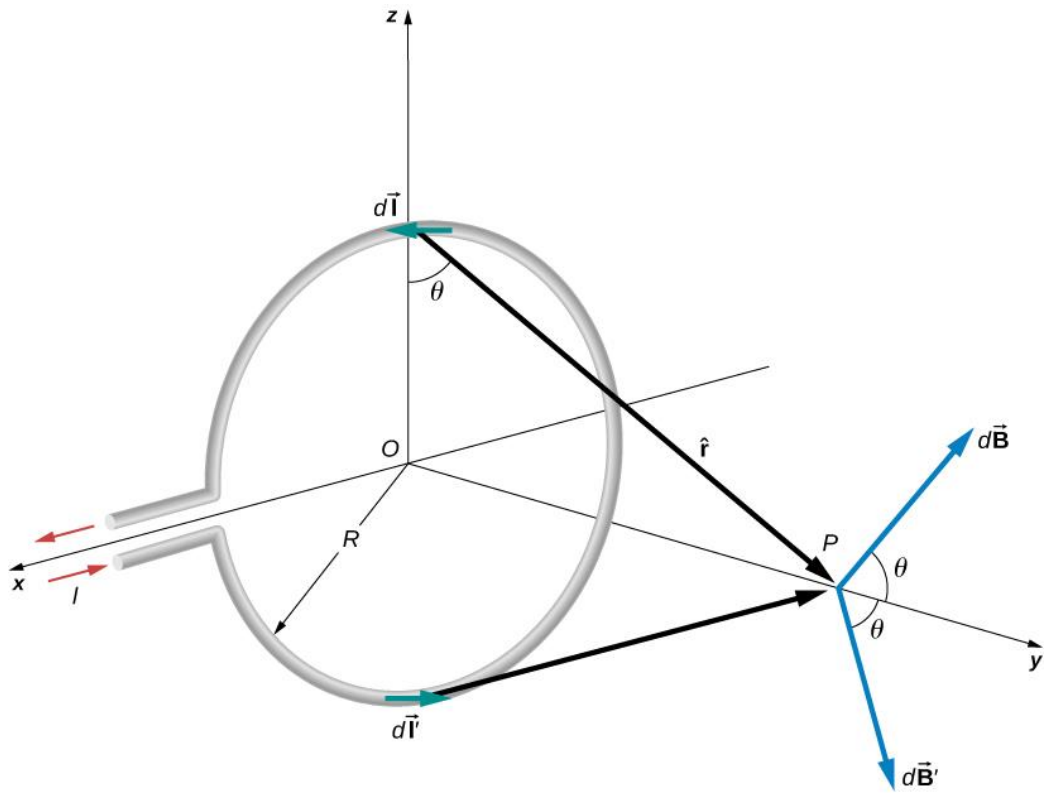


Figure: Magnetic Field of a Current Loop.
Authored by: OpenStax College.
Located at: https://openstax.org/books/university-physics-volume-2/pages/12-4-magnetic-field-of-a-current-loop.

In physics, specifically electromagnetism, the **Biot–Savart law** is an equation describing the magnetic field generated by a constant electric current. It relates the magnetic field to the magnitude, direction, length, and proximity of the electric current.

$$dB = \frac{\mu_0}{4\pi}\frac{I\ dl \sin\theta}{r^2}$$

Figure: Apparatus for the study of Biot-Savart's Law
(Source: https://holmarc.com/biot_savarts_law.php)

Spherical Polar Coordinates

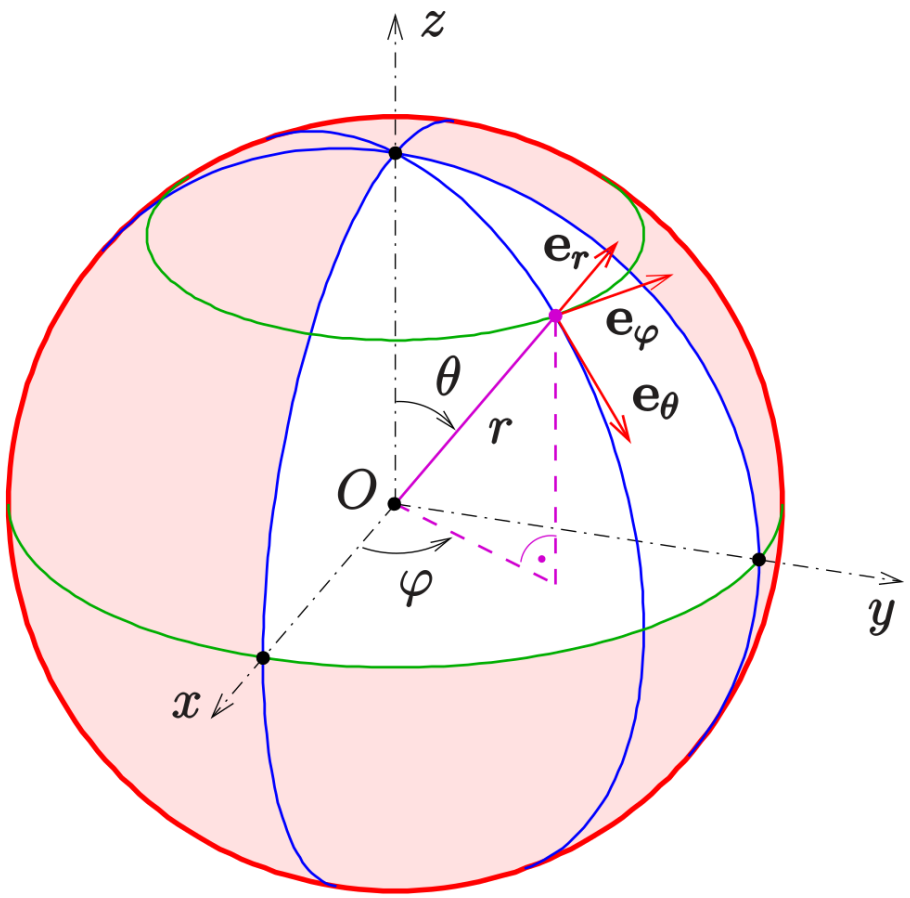


Figure: Unit vectors in spherical coordinates (Source: Ag2gaeh, CC BY-SA 4.0, https://creativecommons.org/licenses/by-sa/4.0, via Wikimedia Commons)

The line element for an infinitesimal displacement from (r, ϑ, φ) to (r + dr, ϑ + dϑ, φ + dφ) is

$$\mathrm{d}\mathbf{r} = \mathrm{d}r\,\hat{\mathbf{r}} + r\,\mathrm{d}\theta\,\hat{\boldsymbol{\theta}} + r\sin\theta\,\mathrm{d}\varphi\,\hat{\boldsymbol{\varphi}},$$

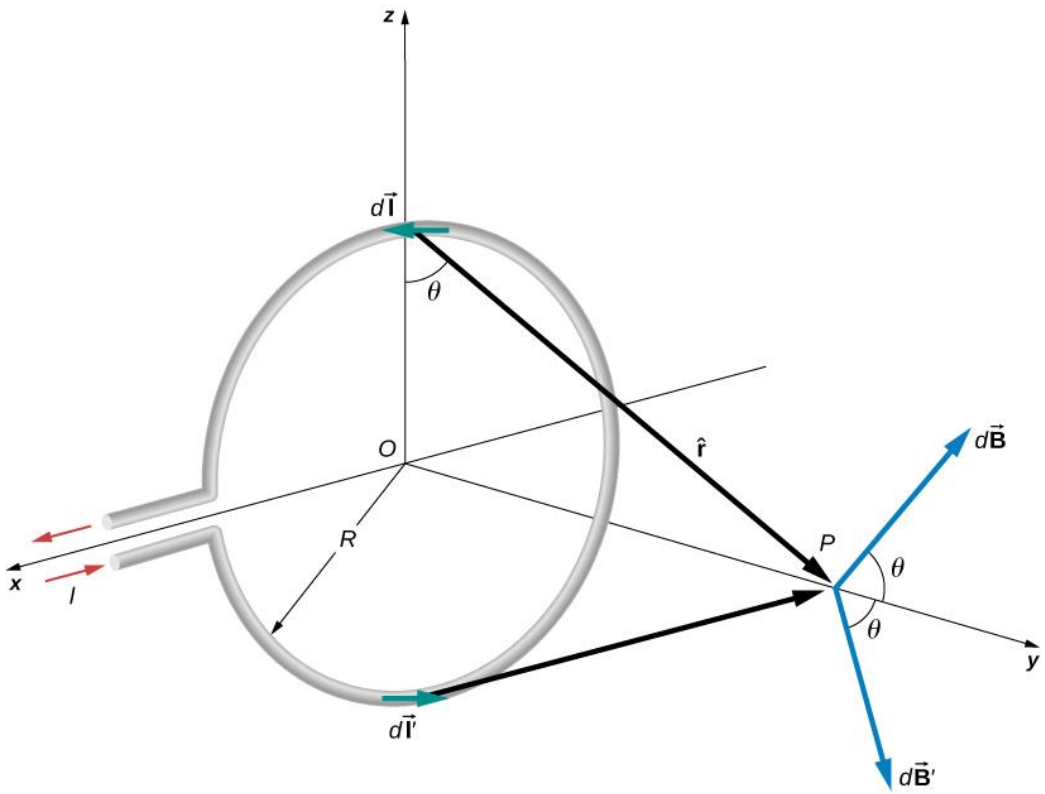
where

$$\begin{aligned}
\hat{\mathbf{r}} &= \sin\theta\cos\varphi\,\hat{\mathbf{x}} + \sin\theta\sin\varphi\,\hat{\mathbf{y}} + \cos\theta\,\hat{\mathbf{z}},\\
\hat{\boldsymbol{\theta}} &= \cos\theta\cos\varphi\,\hat{\mathbf{x}} + \cos\theta\sin\varphi\,\hat{\mathbf{y}} - \sin\theta\,\hat{\mathbf{z}},\\
\hat{\boldsymbol{\varphi}} &= -\sin\varphi\,\hat{\mathbf{x}} + \cos\varphi\,\hat{\mathbf{y}}
\end{aligned}$$

are the local orthogonal unit vectors in the directions of increasing r, ϑ, and φ, respectively, and **x̂**, **ŷ**, and **ẑ** are the unit vectors in Cartesian coordinates. The linear transformation to this right-handed coordinate triplet is a rotation matrix,

$$R = \begin{pmatrix} \sin\theta\cos\varphi & \sin\theta\sin\varphi & \cos\theta \\ \cos\theta\cos\varphi & \cos\theta\sin\varphi & -\sin\theta \\ -\sin\varphi & \cos\varphi & 0 \end{pmatrix}.$$

Biot-Savart law



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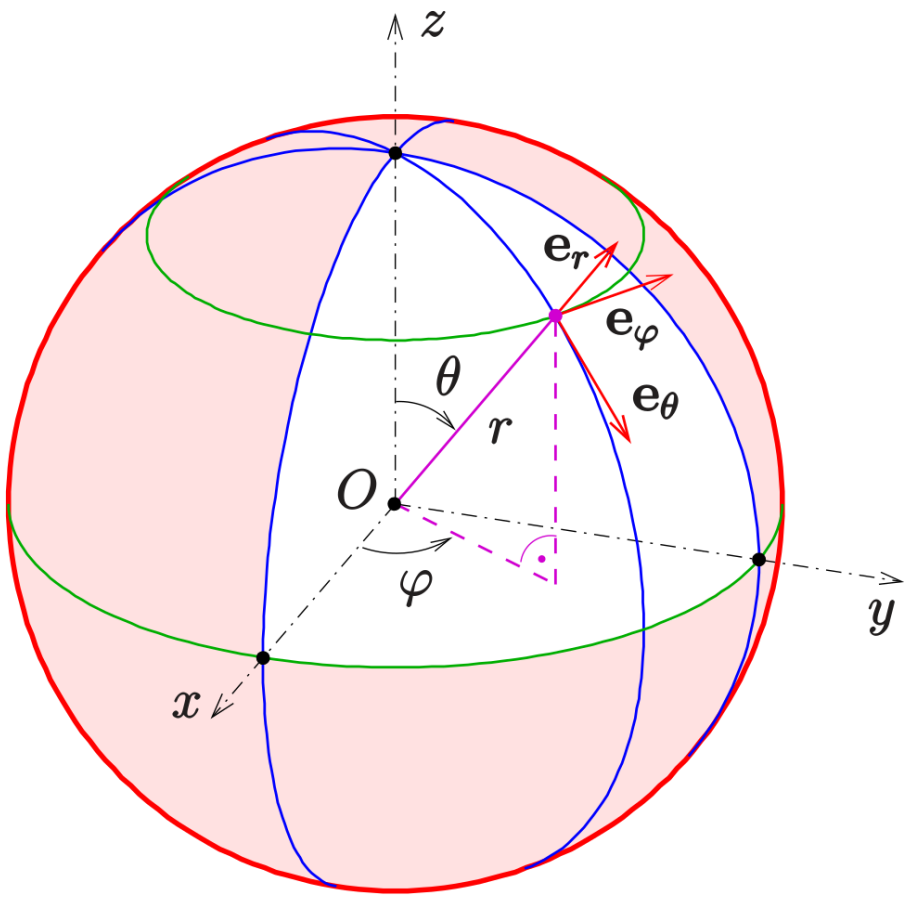

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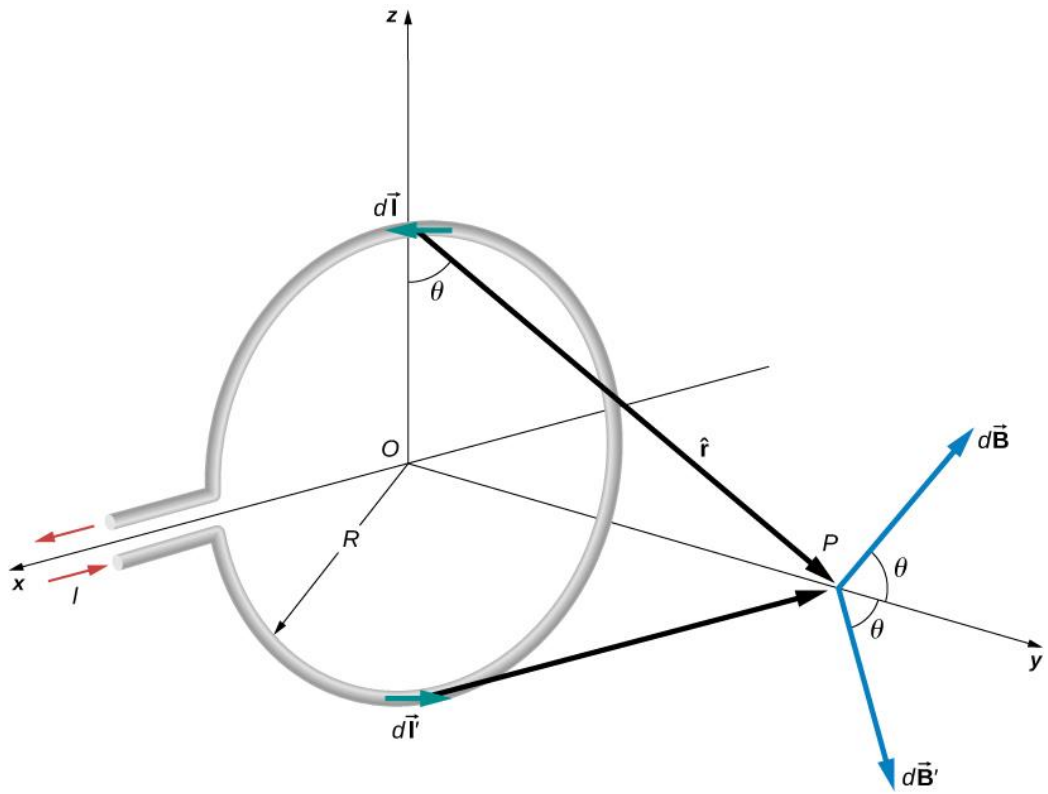
Biot-Savart law



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References

1. Planck Collaboration et al. In: A&A 594 (2016), A13.
2. Laura Baudis. In: Physics of the Dark Universe 1.1 (2012), pp. 94 –108.
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6. S. Agostinelli

Acknowledgements

We are thankful to so and so. We acknowledge the help from ‘this’ funding agency etc.

Thank you