1-1.11-13

EE24BTECH11022 - Eshan Sharma

Question:
If a line makes angles 90°, 135°, 45° with the x, y and z axes respectively, find its direction cosines.
Solution:

Symbol	Value	Description
A	90°	angle with x-axis
B	135°	angle with y-axis
C	45°	angle with z-axis

TABLE 0: Variables Used

The direction cosines D are

$$\mathbf{D} = \begin{pmatrix} \cos 90^\circ \\ \cos 135^\circ \\ \cos 45^\circ \end{pmatrix} = \begin{pmatrix} 0 \\ -\frac{1}{\sqrt{2}} \\ \frac{1}{\sqrt{2}} \end{pmatrix} \tag{0.1}$$

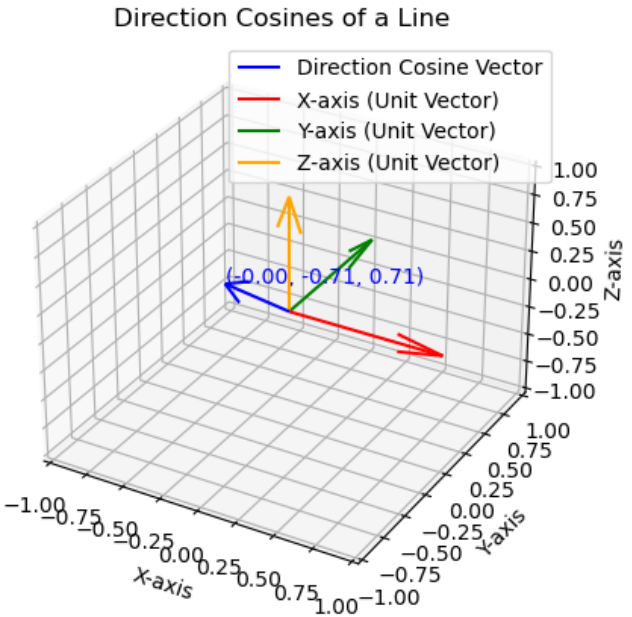

Fig. 0.1: Direction cosines **D**