



Citing Equations in IEEE

Equations may be cited either in the introductory material before they appear or in the concluding sentence material after they appear. Do not, however, use one citation at the beginning or end of a section to “cover” the entire section (i.e., “All the equations in this chapter are sourced exclusively from [2]” is incorrect). **A reader may be referencing equations, paragraphs, or subsections individually, which is why the citation should always be clear for individual equations throughout.**

You may weave the source into the narrative; for example:

The author applied the X method [4], to describe ...

The derivation that follows is summarized from [4].

Here is an example of citing properly **before** the equation:

The DQL algorithm calculates the target Q-value to use when training the DQN [12], and can be expressed as

$$Q_{target}(s, a) = r + \gamma \cdot \max_{a'} Q_{\theta}(s', a'). \quad (2.2)$$

Source: M. D. Akers, “Forming adversarial example attacks against deep neural networks with reinforcement learning,” M.S. thesis, Dept. Comp. Sci., Naval Postgraduate School, Monterey, CA, USA 2023.

And here is an example of how to cite an equation **after** it is presented; the equations must function grammatically as part of the sentence text:

The on-resistance of a semiconductor is a function of the ideal drift region and is given by the equation

$$R_{on} = \frac{W_D}{q\mu_n N_D}, \quad (2.1)$$

where W_D is the width of the ideal drift region shown in Figure 2.1, q is the charge of an electron, and N_D is the doping concentration of the drift region [1].

Source: J. K. Martin, “Optimization of light extraction from high-voltage SiC PiN diode via package design,” M.S. thesis, Dept. Elect. and Comp. Eng., Naval Postgraduate School, Monterey, CA, USA, 2023.

This style matches the guidance from *The LaTeX Companion*:

From the famous inequality math relation [1]

$$y \neq x \tag{1}$$

Or you can also say:

$$y \neq x \tag{2}$$

as proved by [1]

References

- [1] Michel Goossens, Frank Mittelbach, and Alexander Samarin. *The LaTeX Companion*. 1st ed. Reading, Mass.: Addison-Wesley, 1994. 528 pp.

Source: TeX. (2017, Apr. 21). Citing the source of an equation? Available: <https://tex.stackexchange.com/questions/82776/citing-the-source-of-an-equation>