Equations

Krishna Kumar*

Inline Equation

The most famous equation in the world: $E^2 = (m_0c^2)^2 + (pc)^2$ - The **energy-mass-momentum** relation as an in-line equation.

1 equation and align environment

$$f(x) = \sin^2 x + \frac{\tan x}{\log x} + \mathbf{X}^T \times \mathbf{X} \tag{1}$$

$$\iint_0^\infty f(x,y)dxdy$$

$$\begin{aligned} y &= ax + b \\ y + 1 &= ax + (b+1) && (2)\\ &= ax + (b+2) - 1 && (3) \end{aligned}$$

$$\begin{aligned} &y = ax + b \\ &y + 1 = ax + (b+1) && (4)\\ &= ax + (b+2) - 1 && (5) \end{aligned}$$

$$\begin{aligned} f(x) = a1x_1 + a2x_2 + a3x_3 + a_4x_4 + \sqrt{a1x_1 + a2x_2 + a3x_3 + a_4x_4} + \\ a1x_1 + a2x_2 + a3x_3 + a_4x_4 + a1x_1 + a2x_2 + a3x_3 + a_4x_4 \end{aligned} \tag{6}$$

$$A_{m,n} = \begin{pmatrix} a_{1,1} & a_{1,2} & \cdots & a_{1,n} \\ a_{2,1} & a_{2,2} & \cdots & a_{2,n} \\ \vdots & \vdots & \ddots & \vdots \\ a_{m,1} & a_{m,2} & \cdots & a_{m,n} \end{pmatrix} \tag{7}$$

*kks32@cam.ac.uk