1 Gaussion Distribution

The following function defined on the real line

$$f(x) = \frac{1}{\sqrt{2\pi}\sigma} \exp\left\{-\frac{(x-\mu)^2}{2\sigma^2}\right\} \tag{1}$$

is called the probability density function (*pdf*) of a normal distribution with mean μ and variance σ^2. $\cdots$ The equation ((1)) on page 1 of Section 1 is called standard normal pdf if $\mu = 0$ and $\sigma = 1$.