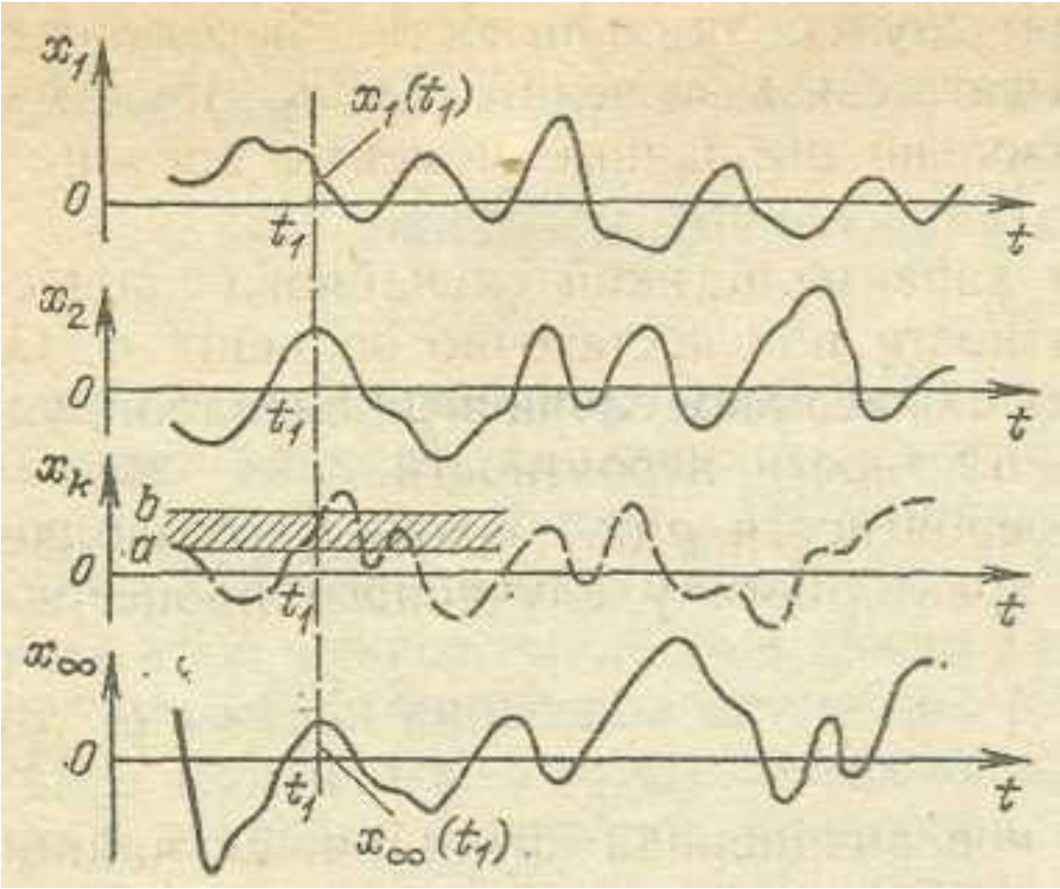

x_1
$x_1(t_1)$
0
t_1
t
x_2
0
t_1
t
x_k
b
a
0
t_1
t
x_∞
0
t_1
t
$x_\infty(t_1)$

$$P_{t_1}\left(a < x \le b\right) = \int_a^b w\left(x;t_1\right)dx \tag{4.1}$$

$$\int_{x_{min}}^{x_{max}} w\left(x;t_1\right)dx = 1 \tag{4.2}$$

$$\sum_i P_i = 1 \tag{4.2`}$$

$$m_x\left(t\right) = M\left\{x\left(t\right)\right\} = \int_{-\infty}^{\infty} xw\left(x;t\right)dx \tag{4.3}$$

$$D_x(t) = M\left\{\left[x(t) - m_x(t)\right]^2\right\} \tag{4.4}$$

$$\sigma_x(t) = \sqrt{M\left\{\left[x(t) - m_x(t)\right]^2\right\}} = \sqrt{D_x(t)} \tag{4.5}$$

$$w(x_1, x_2; t_1, t_2)$$

$$K_x(t_1, t_2) = M\left\{x(t_1)x(t_2)\right\} \tag{4.6}$$

$$K_x(t_1, t_2) = \int_{-\infty}^{\infty}\int_{-\infty}^{\infty} x_1 x_2 w(x_1, x_2; t_1, t_2)\, dx_1 dx_2 \tag{4.7}$$

$$K_x(t_1,t_2) = \int_{-\infty}^{\infty} x_1^2 w(x_1;t_1) dx_1 = M\{x^2(t)\} \quad (4.7`)$$

$$R_x(t_1,t_2) = M\{[x(t_1) - m_x(t_1)][x(t_2) - m_x(t_2))]\} \quad (4.8)$$

$$R_x(t_1,t_2) = K_x(t_1,t_2) - m_x(t_1)m_x(t_2)$$

$$K_x(t,t) - m_x^2(t)m_x(t_2) = R_x(t,t) = D_x(t)$$

$$m_x = M\{x\} = \int_{-\infty}^{\infty} x w(x) dx \tag{4.9}$$

$$K_x(\tau) = M\{x(t)x(t+\tau)\} \tag{4.10}$$

$$R_x(\tau) = K_x(\tau) - m_x^2 \tag{4.11}$$

$$D_x = K_x(0) - m_x^2 = R_x(0) = \sigma_x^2 \tag{4.12}$$

$$\sigma_x = \sqrt{K_x(0) - m_x^2} \tag{4.13}$$

$$\overline{x(t)} = \lim_{T\to\infty} \frac{1}{T} \int_{-T/2}^{T/2} x(t)dt \tag{4.14}$$

$$K_x(\tau) = \lim_{T\to\infty} \frac{1}{T} \int_{-T/2}^{T/2} x(t)x(t+\tau)dt \tag{4.15}$$

$$R_x(\tau) = K_x(\tau) - \overline{[x(t)]^2} \tag{4.16}$$

$$D_x = K_x(0) - \overline{[x(t)]^2} = \sigma_x^2 \tag{4.17}$$

$$\sigma_x = \sqrt{K_x(0) - \overline{[x(t)]^2}} \tag{4.18}$$

$$r_x(\tau) = R_x(\tau)/D_x = \frac{K_x(\tau) - \overline{[x(t)]^2}}{D_x} \tag{4.19}$$