[illegible] 519.221
[illegible]
[illegible]
tze-dtu @ ukr.net

[illegible]

[illegible]

[illegible] [1 – 4]) [illegible] m, [illegible] D [illegible]

[illegible] x, [illegible] m [illegible] D, [illegible]

$$m = 0; \quad D = 1. \tag{1}$$

[illegible]

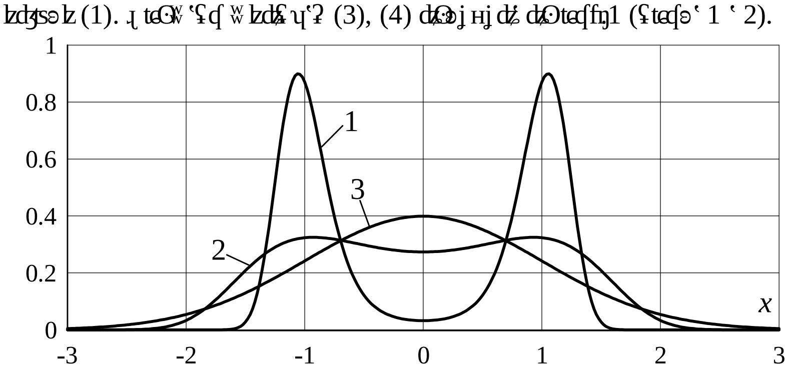
$$m = \int_{-\infty}^{\infty} x f(x) dx; \quad D = \int_{-\infty}^{\infty} x^2 f(x) dx \tag{2}$$

[illegible]

$$f_{2(1)} = \exp(-3,439 + 6x^2 - 2,7x^4); \tag{3}$$

$$f_{2(2)} = \exp(-1,296 + 0,4x^2 - 2,232x^4) \tag{4}$$

[illegible] (1). [illegible] (3), (4) [illegible] 1 ([illegible] 1 [illegible] 2).



[illegible] 1. [illegible] (3), (4) [illegible] (7)

[illegible] (1). [illegible] x [illegible] $x_a < x < x_b$

$$P(x_a < x < x_b) = \int_a^b f(x)\mathrm{d}x \qquad (5)$$

[illegible] (3), (4) [illegible] (1), [illegible]

$$\varphi_1 = \varphi_1(x) = \frac{1}{\sqrt{2\pi D}}\exp(-\frac{(x-m)^2}{2D}) = \frac{1}{\sqrt{2\pi D}}\exp(-\frac{1}{2}\ln 2\pi D - \frac{m^2}{2D} + \frac{m}{D}x - \frac{1}{2D}x^2), \qquad (6)$$

[illegible] (1), [illegible]

$$\varphi_1 = \frac{1}{\sqrt{2\pi \cdot 1}}\exp(-\frac{(x-0)^2}{2\cdot 1^2}) = \frac{1}{\sqrt{2\pi}}\exp(-\frac{1}{2}x^2). \qquad (7)$$

[illegible] (7) [illegible] 1 [illegible] 3).

[illegible] m i D [illegible]

[illegible] [5, 6] [illegible]

[illegible] [6] [illegible]

$$\varphi_r = \varphi_r(x) = \exp(g_r(x)), \qquad (8)$$

[illegible]

$$g_r(x) = G_1 + G_2 x + G_3 x^2 + G_4 x^3 + \ldots + G_{2r+1} x^{2r} \qquad (9)$$

[illegible] $G_{2r+1} < 0$.

[illegible] (1), (2) [illegible] φ-[illegible] r [illegible] φ-[illegible] $G_1, G_2, \ldots, G_{2r+1}$ [illegible] φ-[illegible].

[illegible] φ-[illegible] (8) (9) [illegible]:

- [illegible] $-\infty < x < \infty$ [illegible] $\varphi_r(x) > 0$;
- [illegible] $-\infty$ [illegible] $+\infty$ [illegible] $\lim_{x\to-\infty}\varphi_r(x) = 0$; $\lim_{x\to\infty}\varphi_r(x) = 0$;
- [illegible] φ-[illegible] $\int_{-\infty}^{\infty}\varphi_r(x)\mathrm{d}x = C$, [illegible] C [illegible]

[illegible] φ-[illegible] r [illegible] $2r+1$, [illegible] G_1 [illegible] $\varphi_r = \varphi_r(x)$, [illegible] $C = 1$.

[illegible] φ-[illegible] (8) (9) [illegible] φ-[illegible]

[illegible] $G_1, G_2, \ldots, G_{2r+1}$ φ-[illegible] (8) (9) [illegible] $N \geq 2r$ [illegible] $1+2r$ [illegible] φ-[illegible] [5] [illegible]

$$\int_{-\infty}^{\infty} \tilde{f}_r(x)\mathrm{d}x = 1;$$

$$\int_{-\infty}^{\infty} x\tilde{f}_r(x)\mathrm{d}x = \frac{1}{N}\sum_{i=1}^{N} x_i;$$

$$\int_{-\infty}^{\infty} x^2\tilde{f}_r(x)\mathrm{d}x = \frac{1}{N}\sum_{i=1}^{N} x_i^2; \qquad (10)$$

$$\vdots$$

$$\int_{-\infty}^{\infty} x^{2r}\tilde{f}_r(x)\mathrm{d}x = \frac{1}{N}\sum_{i=1}^{N} x_i^{2r},$$

[illegible] x_i $(i = 1, \ldots, N)$ [illegible] $r = 1$, [illegible] $r > 1$ [illegible].

[illegible] (8), (9) [illegible] r $\tilde{f}$-[illegible] [illegible].

[illegible] $\tilde{f}$-[illegible] $(r = 1)$ [illegible]

$$\tilde{f}_1 = \exp(G_1 + G_2 x + G_3 x^2); \ \ (G_3 < 0). \qquad (11)$$

[illegible] (10), [illegible] (6) [illegible] (11) [illegible]

$$G_1 = -\frac{1}{2}\ln 2\pi D - \frac{m^2}{2D}; \qquad G_2 = \frac{m}{D}; \qquad G_3 = \frac{1}{2D} \qquad (12)$$

[illegible],

$$m = \frac{G_2}{2G_3}; \quad D = \frac{1}{2G_3}. \qquad (13)$$

[illegible] m [illegible] D, [illegible] $\tilde{f}$-[illegible] [illegible] m [illegible] D [illegible] $\tilde{f}$-[illegible] $r > 1$, [illegible] m [illegible] D [illegible] m [illegible] D [illegible].

[illegible]

$$\tilde{f}_2 = \exp(G_1 + G_2 x + G_3 x^2 + G_4 x^3 + G_5 x^4) \quad (G_5 < 0), \qquad (14)$$

[illegible] (10), [illegible] $G_1, \ldots, G_5$ [illegible] (14), [illegible] $\tilde{f}$-[illegible].

[illegible] $x_1, \ldots, x_M$). [illegible] $\tilde{f}$-[illegible]

$$\tilde{f}_r = \tilde{f}_r(x_1, \ldots, x_M) = \exp(g_r(x_1, \ldots, x_M)), \qquad (15)$$

[illegible]

$$g_r(x_1, \dots, x_M) = G_1 + G_2 x_1 + \dots + G_{M+1} x_M + G_{M+2} x_1^2 + G_{M+3} x_1 x_2 + \dots + G_P x_M^{2r} \quad (16)$$

[illegible] r [illegible] $G_1, G_2, \dots, G_P$ [illegible]

[illegible] (15) (16) [illegible]:

- [illegible];
- [illegible] $\mp\infty$ [illegible];
- [illegible] $x_1, \dots, x_M$ [illegible]

[illegible] (15) (16) [illegible]

$$P = \frac{(M+1+2r)!}{M!(1+2r)!}. \quad (17)$$

[illegible] $M = 2$ [illegible] x_1, x_2, [illegible] $(r = 1)$ [illegible]

$$\boldsymbol{\breve{u}}_1 = \boldsymbol{\breve{u}}_1(x_1, x_2) = \exp(G_1 + G_2 x_1 + G_3 x_2 + G_4 x_1^2 + G_5 x_1 x_2 + G_6 x_2^2); \; (G_4 < 0; G_5 < 0, G_6 < 0). \quad (18)$$

[illegible] $M = 2$ [illegible] $(r = 2)$ [illegible]

$$\boldsymbol{\breve{u}}_2 = \boldsymbol{\breve{u}}_2(x_1, x_2) = \exp(G_1 + G_2 x_1 + G_3 x_2 + G_4 x_1^2 + G_5 x_1 x_2 + G_6 x_2^2 + G_7 x_1^3 + G_8 x_1^2 x_2 + G_9 x_1 x_2^2 + G_{10} x_2^3 + G_{11} x_1^4 + G_{12} x_1^3 x_2 + G_{13} x_1^2 x_2^2 + G_{14} x_1 x_2^3 + G_{15} x_2^4).$$

$$(G_{11} < 0; \; \dots \; ; G_{15} < 0) \quad (19)$$

[illegible] $G_1, \dots, G_P$ [illegible] (15) (16) [illegible] $N \geq P - 1$ [illegible] 2r [illegible] [6]. [illegible] $r = 1$, [illegible] $r > 1$ [illegible].

[illegible] (15), (16) [illegible]

$$\boldsymbol{\varepsilon}_i = m_i = \int_{-\infty}^{\infty} dx_1 \dots \int_{-\infty}^{\infty} dx_M \, x_i \boldsymbol{\breve{u}}_r(x_1, \dots, x_M); \quad (i = 1, \dots, M); \quad (18)$$

[illegible]

$$\boldsymbol{\varepsilon}_{ij} = \int_{-\infty}^{\infty} dx_1 \dots \int_{-\infty}^{\infty} dx_M \, x_i x_j \boldsymbol{\breve{u}}_r(x_1, \dots, x_M); \quad (i, j = 1, \dots, M); \quad (19)$$

[illegible]

$$\boldsymbol{\varepsilon}_{ijk} = \int_{-\infty}^{\infty} dx_1 \dots \int_{-\infty}^{\infty} dx_M \, x_i x_j x_k \boldsymbol{\breve{u}}_r(x_1, \dots, x_M); \quad (i, j, k = 1, \dots, M). \quad (21)$$

[illegible]

[illegible] $N > (15 - 20)r$. [illegible] M [illegible].

[illegible]

[illegible]

[illegible]

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