

# Integrální počet II

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## Rejstřík. D. Některé integrály

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D. NĚKTERÉ INTEGRÁLY

$$\int_0^{+\infty} e^{-x} x^{s-1} dx \text{ viz „funkce gamma“; } \int_0^1 x^{p-1} (1-x)^{q-1} dx \text{ viz „funkce}$$

beta“. Integrál pro Eulerovu konstantu viz 697, pro  $\Gamma'(s) : \Gamma(s)$  701, pro  $\lg \Gamma(s)$

704.  $\int_0^1 \frac{x^{\alpha-1} (1-x)^{\beta-1}}{(a+bx)^{\alpha+\beta}} dx$  (693);  $\int_0^{\frac{1}{2}\pi} \sin^{m-1} x \cos^{n-1} x dx$  ( $m > 0, n > 0$ )

(692);  $\int_0^{+\infty} e^{-ax} \cos bx \cdot x^{s-1} dx, \int_0^{+\infty} e^{-ax} \sin bx \cdot x^{s-1} dx$  ( $a > 0, s > 0$ ) (344);

$\int_0^{+\infty} \cos bx \cdot x^{s-1} dx, \int_0^{+\infty} \sin bx \cdot x^{s-1} dx$  ( $b \neq 0, 0 < s < 1$ ) (344);  $\int_0^{+\infty} e^{cx} x^{s-1} dx$

pro komplexní  $c, s$  (346);  $\int_0^{+\infty} \frac{x^{b-1}}{1+x} dx$  ( $0 < b < 1$ ) (277);  $\int_0^{+\infty} e^{-ax} \frac{\sin \beta x}{x} \cdot$

$\cdot dx$  ( $\alpha > 0$ ) (334, 346);  $\int_0^{+\infty} \frac{\sin \beta x}{x} dx$  (330, 335, 345, 352, 359);  $\int_0^{+\infty} e^{-ax^2} \cdot$

$\cdot \cos bx dx, \int_0^{+\infty} e^{-ax^2} \sin bx dx$  ( $a > 0$ ) (295);  $\int_0^{+\infty} e^{-x^2} dx$  (142, 223, 251);

$\int_0^{+\infty} e^{-ax^2} \cos bx^2 dx, \int_0^{+\infty} e^{-ax^2} \sin bx^2 dx$  ( $a > 0$ ) (340, 345);  $\int_0^{+\infty} \cos x^2 dx =$

$= \frac{1}{2} \int_0^{+\infty} \cos t \frac{dt}{\sqrt{t}}, \int_0^{+\infty} \sin x^2 dx = \frac{1}{2} \int_0^{+\infty} \sin t \frac{dt}{\sqrt{t}}$  (342, 345, 361);  $\int_0^{+\infty} \frac{\cos \alpha x}{\beta^2 + x^2} \cdot$

$\cdot dx$  ( $\beta \neq 0$ ) (350, 357, 535);  $\int_0^{+\infty} \frac{x \sin \alpha x}{\beta^2 + x^2} dx$  ( $\beta \neq 0$ ) (350, 535).