



9. $y(x) + \lambda \int_{-\infty}^{\infty} \frac{y(t) dt}{\cosh[b(x-t)]} = f(x).$

Solution for $b > \pi|\lambda|$:

$$y(x) = f(x) - \frac{2\lambda b}{\sqrt{b^2 - \pi^2\lambda^2}} \int_{-\infty}^{\infty} \frac{\sinh[2k(x-t)]}{\sinh[2b(x-t)]} f(t) dt, \quad k = \frac{b}{\pi} \arccos\left(\frac{\pi\lambda}{b}\right).$$

References

- Gakhov, F. D. and Cherskii, Yu. I.**, *Equations of Convolution Type* [in Russian], Nauka, Moscow, 1978.
Polyanin, A. D. and Manzhirov, A. V., *Handbook of Integral Equations*, CRC Press, Boca Raton, 1998.