

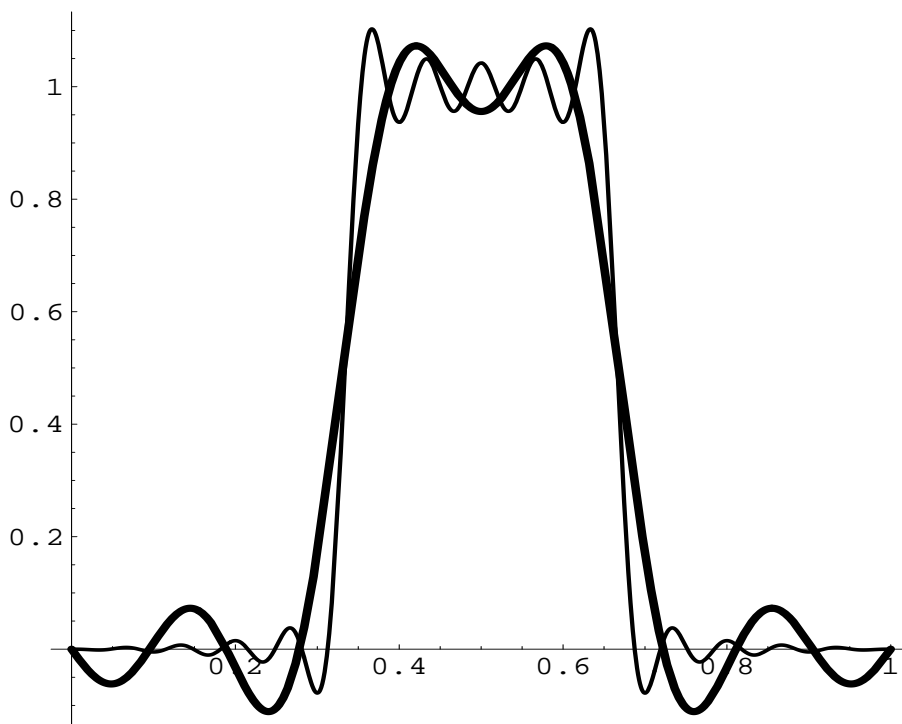
Fourier–Entwicklung

$$f(t) = \begin{cases} 1 & \text{für } t \in (1/3, 2/3), \\ 0 & \text{sonst.} \end{cases}$$

$$a_k = \int_0^1 f(t) \sin(\pi kt) dt$$

mit $a_{2n} = 0$ und $\frac{1}{2n-1} \leq |a_{2n-1}| = \frac{2}{2n-1}$

$$f_N(t) = \sum_{k=1}^N a_k 2 \sin(\pi kt)$$



dicke Linie f_{10} , dünne Linie f_{30}

$$\|f - f_N\|_{L^2} \approx c/\sqrt{N}$$