

Distribuce	Fourierova transformace
$f \in L^1(\mathbb{R}^N), T_f \in \mathcal{S}'(\mathbb{R}^N)$	$T_{\mathcal{F}(f)}, \mathcal{F}(f) = \int_{\mathbb{R}^N} f(x)e^{-2\pi i(x,\xi)} dx$
$f \in L^2(\mathbb{R}^N), T_f \in \mathcal{S}'(\mathbb{R}^N)$	$T_{\mathcal{F}(f)},$ $\mathcal{F}(f) = \lim_{R \rightarrow \infty} \int_{B_R(0)} f(x)e^{-2\pi i(x,\xi)} dx$
$\delta \in \mathcal{S}'(\mathbb{R})$	$\mathcal{F}(\delta) = T_1$
$T_1 \in \mathcal{S}'(\mathbb{R})$	$\mathcal{F}(T_1) = \delta$
$T_{x^n} \in \mathcal{S}'(\mathbb{R}) \quad n \in \mathbb{N}$	$\mathcal{F}(T_{x^n}) = \frac{1}{(-2\pi i)^n} D^n \delta$
$D^n \delta \in \mathcal{S}'(\mathbb{R}) \quad n \in \mathbb{N}$	$\mathcal{F}(D^n \delta) = (2\pi i)^n T_{\xi^n}$
$T_{e^{2\pi i b x}} \in \mathcal{D}'_{\mathbb{C}}(\mathbb{R}) \quad b \in \mathbb{C}$	$\mathcal{F}(T_{e^{2\pi i b x}}) = \delta_b$
$T_{\sin(2\pi b x)} \in \mathcal{D}'_{\mathbb{C}}(\mathbb{R}) \quad b \in \mathbb{C}$	$\mathcal{F}(T_{\sin(2\pi b x)}) = \frac{1}{2i}(\delta_b - \delta_{-b})$
$T_{\cos(2\pi b x)} \in \mathcal{D}'_{\mathbb{C}}(\mathbb{R}) \quad b \in \mathbb{C}$	$\mathcal{F}(T_{\cos(2\pi b x)}) = \frac{1}{2}(\delta_b + \delta_{-b})$
$T_{\sinh(2\pi b x)} \in \mathcal{D}'_{\mathbb{C}}(\mathbb{R}) \quad b \in \mathbb{C}$	$\mathcal{F}(T_{\sinh(2\pi b x)}) = \frac{1}{2}(\delta_{-ib} - \delta_{ib})$
$T_{\cosh(2\pi b x)} \in \mathcal{D}'_{\mathbb{C}}(\mathbb{R}) \quad b \in \mathbb{C}$	$\mathcal{F}(T_{\cosh(2\pi b x)}) = \frac{1}{2}(\delta_{ib} + \delta_{-ib})$
$H_{x_+^\lambda} \in \mathcal{S}'(\mathbb{R}) \quad \lambda \in \mathbb{C}$	$\mathcal{F}\left(\frac{H_{x_+^\lambda}}{\Gamma(\lambda+1)}\right) = \mathcal{F}(H_{\chi_+^\lambda})$ $= \frac{e^{-i(\lambda+1)\frac{\pi}{2}}}{(2\pi)^{\lambda+1}} H_{(\xi-i0)^{-\lambda-1}}$

Distribuce	Fourierova transformace
$T_{x_+^n} \in \mathcal{S}'(\mathbb{R}) \quad n \in \mathbb{N}$	$\mathcal{F}(T_{x_+^n}) = \frac{n!}{(2\pi i)^{n+1}} H_{\xi^{-n-1}} + \frac{1}{2(-2\pi i)^n} D^n \delta$
$T_H \in \mathcal{S}'(\mathbb{R})$	$\mathcal{F}(T_H) = \frac{1}{2\pi i} T_{\text{p.v.} \frac{1}{\xi}} + \frac{1}{2} \delta$
$H_{x_-^\lambda} \in \mathcal{S}'(\mathbb{R}) \quad \lambda \in \mathbb{C}$	$\mathcal{F}\left(\frac{H_{x_-^\lambda}}{\Gamma(\lambda+1)}\right) = \mathcal{F}(H_{x_-^\lambda}) = \frac{e^{i(\lambda+1)\frac{\pi}{2}}}{(2\pi)^{\lambda+1}} H_{(\xi+i0)^{-\lambda-1}}$
$H_{ x ^\lambda} \in \mathcal{S}'(\mathbb{R}) \quad \lambda \in \mathbb{C}, -\lambda \notin \mathbb{Z}$	$\mathcal{F}(H_{ x ^\lambda}) = \frac{-2\Gamma(\lambda+1)}{(2\pi)^{\lambda+1}} \sin(\lambda\frac{\pi}{2}) H_{ \xi ^{-\lambda-1}}$
$T_{ x } \in \mathcal{S}'(\mathbb{R})$	$\mathcal{F}(T_{ x }) = \frac{-1}{2\pi^2} H_{ \xi ^{-2}} = \frac{-1}{2\pi^2} T_{\text{f.p.} \frac{1}{\xi^2}}$
$H_{ x ^\lambda \text{ sign } x} \in \mathcal{S}'(\mathbb{R}) \quad \lambda \in \mathbb{C}, \lambda \notin \mathbb{Z}$	$\mathcal{F}(H_{ x ^\lambda \text{ sign } x}) = \frac{-2i\Gamma(\lambda+1)}{(2\pi)^{\lambda+1}} \cos(\lambda\frac{\pi}{2}) H_{ \xi ^{-\lambda-1} \text{ sign } \xi}$
$T_{\text{sign } x} \in \mathcal{S}'(\mathbb{R}),$	$\mathcal{F}(T_{\text{sign } x}) = \frac{1}{i\pi} T_{\text{p.v.} \frac{1}{x}}$
$H_{x^{-2n}} \in \mathcal{S}'(\mathbb{R}) \quad n \in \mathbb{N}$	$\mathcal{F}(H_{x^{-2n}}) = \frac{(-1)^n \pi (2\pi)^{2n-1}}{(2n-1)!} T_{ \xi ^{2n-1}}$
$H_{x^{-2}} = T_{\text{f.p.} \frac{1}{x^2}} \in \mathcal{S}'(\mathbb{R})$	$\mathcal{F}(H_{x^{-2}}) = -2\pi^2 T_{ \xi }$
$H_{x^{-2n+1}} \in \mathcal{S}'(\mathbb{R}) \quad n \in \mathbb{N}$	$\mathcal{F}(H_{x^{-2n+1}}) = \frac{(-1)^n i\pi (2\pi)^{2n-2}}{(2n-2)!} T_{ \xi ^{2n-2} \text{ sign } \xi}$
$H_{x^{-1}} = T_{\text{p.v.} \frac{1}{x}} \in \mathcal{S}'(\mathbb{R})$	$\mathcal{F}(H_{x^{-1}}) = -i\pi T_{\text{sign } \xi}$

Distribuce	Fourierova transformace
$H_{(x+i0)^\lambda} \in \mathcal{S}'(\mathbb{R}) \quad \lambda \in \mathbb{C},$ $\lambda \notin \mathbb{Z}$	$\mathcal{F}(H_{(x+i0)^\lambda}) = \frac{e^{i\lambda\frac{\pi}{2}}}{(2\pi)^\lambda \Gamma(-\lambda)} H_{\xi_+}^{-\lambda-1}$
$H_{(x-i0)^\lambda} \in \mathcal{S}'(\mathbb{R}) \quad \lambda \in \mathbb{C},$ $\lambda \notin \mathbb{Z}$	$\mathcal{F}(H_{(x-i0)^\lambda}) = \frac{e^{-i\lambda\frac{\pi}{2}}}{(2\pi)^\lambda \Gamma(-\lambda)} H_{\xi_-}^{-\lambda-1}$
$H_{(x+i0)^{-k}} \in \mathcal{S}'(\mathbb{R}) \quad k \in \mathbb{N},$ $k = 2n$ nebo $k = 2n - 1$	$\mathcal{F}(H_{(x+i0)^{-2n}}) = \frac{(-1)^n (2\pi)^{2n}}{(2n-1)!} T_{\xi_+}^{2n-1}$ $\mathcal{F}(H_{(x+i0)^{-2n+1}}) = \frac{(-1)^n i (2\pi)^{2n-1}}{(2n-2)!} T_{\xi_-}^{2n-2}$
$H_{(x-i0)^{-k}} \in \mathcal{S}'(\mathbb{R}) \quad k \in \mathbb{N},$ $k = 2n$ nebo $k = 2n - 1$	$\mathcal{F}(H_{(x-i0)^{-2n}}) = \frac{(-1)^n (2\pi)^{2n}}{(2n-1)!} T_{\xi_-}^{2n-1}$ $\mathcal{F}(H_{(x-i0)^{-2n+1}}) = -\frac{(-1)^n i (2\pi)^{2n-1}}{(2n-2)!} T_{\xi_+}^{2n-2}$
$H_{ x ^\lambda} \in \mathcal{S}'(\mathbb{R}^N) \quad \lambda \in \mathbb{C}$	$\mathcal{F}\left(\frac{H_{ x ^\lambda}}{\Gamma(\frac{\lambda+N}{2})}\right) = \frac{1}{\Gamma(-\frac{\lambda}{2}) \pi^{\lambda+\frac{N}{2}}} H_{ \xi }^{-\lambda-N}$