Basic Notation

$\mathbb{N}$: set of all natural numbers.
$\mathbb{N}_0 = \mathbb{N} \cup \{0\}$.
$\mathbb{R}$: set of all real numbers.
$\mathbb{R}^n$: n-dimensional Euclidean space.
$\mathbb{R}^n_+ : \{(x_i) \in \mathbb{R}^n : x_n > 0\}$.
ω_n: volume of unit ball in $\mathbb{R}^n$.
Ω: open subset of $\mathbb{R}^n$ with closure $\overline{\Omega}$ and boundary $\partial\Omega$.
$B(X, Y)$: space of all bounded linear maps from a Banach space X to another such space Y.
$K(X, Y)$: subspace of $B(X, Y)$ consisting of all compact linear maps from X to Y.
Embedding: a bounded linear injective map of a Banach space X to another such space Y.
$X \hookrightarrow Y$: the space X is embedded in Y.
$X \hookrightarrow\hookrightarrow Y$: the space X is compactly embedded in Y.
$L_p(\Omega)$: the Lebesgue space of all scalar-valued functions f on Ω such that $\int_\Omega |f|^p \, dx < \infty \; (1 \leq p < \infty)$.
$L_\infty(\Omega)$: the Lebesgue space of all scalar-valued functions f on Ω such that $\operatorname{ess\,sup}_\Omega |f(x)| < \infty$.
F: Fourier transform given by $F(f)(\xi) = (2\pi)^{-n/2} \int_{\mathbb{R}^n} f(x) e^{-ix\cdot\xi} \, dx$.