or to the system of equations

$$\begin{aligned} \gamma \cdot \phi &= \varepsilon_1 \\ \gamma'_k \cdot \phi &= i\varepsilon_{2k}, \ k = 1, ..., d. \end{aligned} \tag{16}$$

3 Solutions to the convolution equations: identification and well-posedness

3.1 Identification

For identification the supports of the functions in the equations play an important role.

Recall that for a continuous function $\psi(x)$ on R^d support is defined as the set W =supp(ψ), such that

$$\psi(x) = \begin{cases} a \neq 0 & \text{for } x \in W \\ 0 & \text{for } x \in R^d \backslash W. \end{cases}$$

Support of a continuous function is an open set.

Since generalized functions can be considered as functionals on the space S support of a generalized function $b \in S^*$ is defined as follows (Schwartz, 1966, p. 28). Denote by (b, ψ) the value of the functional b for $\psi \in S$. Consider open sets W with the property that for any $\psi \in S : \text{supp}(\psi) = W$ the value of the functional $(b, \psi) = 0$; then define the null set for b as the union