$\Omega \subset$
R^n
$\mathcal{H}$
$f:$
$\Omega \to$
$R\mathcal{H}'$
$u \in$
$\mathcal{H}$
$\Lambda_N :=$
$\{\lambda_1, \ldots, \lambda_N\} \subset$
$\mathcal{H}'$
$s_u \in$
$\mathcal{H}$
u
$\langle \lambda_i, u \rangle =$
$\langle \lambda_i, s_u \rangle, 1 \leq$
$i \leq$
N
$\langle \lambda_i, u \rangle :=$
$\lambda_i(u)$
$\Omega \subset$
R^d
$X_N :=$
$\{x_1, \ldots, x_N\} \subset$
Ω
$\mathcal{H}$
$\delta_{x_i}(f) =$
$f(x_i), 1 \leq$
$i \leq$
N
$\Lambda_N :=$
$\{\delta_{x_1}, \ldots, \delta_{x_N}\} \subset$
$\mathcal{H}'$
$_i) =$
$\langle \delta_{x_i}, s \rangle =$
$\langle \delta_{x_i}, s_u \rangle =$
$s_u(x_i), 1 \leq$
$i \leq$
N
$\lambda_i :=$
$\delta_{x_i} \circ$
D^a
$a \in$
N_0^d
$\in$
Ω
$Bu(x) =$
$g(x), x \in$
$\partial\Omega$
L
B
$X_N \subset$
Ω
s_u
X_N
$_u(x_i) =$
$Lu(x_i) =$
$f(x_i), x_i \in$
Ω
$Bs_u(x_i) =$
$Bu(x_i) =$
$g(x_i), x_i \in$
$\partial\Omega$
N
$V_N :=$
$span\{\nu_1, \ldots, \nu_N\} \subset$
$\mathcal{H}$
$s_u \in$
V_N
$_u(x) :=$
$\sum_{j=1}^N \alpha_j \nu_j(x), x \in$
$\Omega, \alpha \in$
R^N
$\langle \lambda_i, u \rangle =$
$\langle \lambda_i, s_u \rangle =$
$\sum_{j=1}^N \alpha_j \langle \lambda_i, \nu_j \rangle$
$A_\Lambda \alpha =$
b
$(A_\Lambda)_{i,j} :=$
$\langle \lambda_i, \nu_j \rangle, b_i :=$
$\langle \lambda_i, u \rangle$
Ω
Ω
$K:$
$\Omega \times$
$\Omega \to$
R
$N \in$
N
$X_N =$
$\{x_i\}_{i=1}^N$