

$$\frac{1}{2}\rho(\mathbf{x})+\lambda\int_{\Sigma}\frac{\partial G}{\partial n_{\mathbf{x}}}(\mathbf{x},\mathbf{y})\rho(\mathbf{y})\,d\mathbf{y}=-\lambda\mathbf{n}_{\mathbf{x}}\cdot\nabla_{\mathbf{x}}\Big[\frac{1}{4\pi\epsilon_1}\sum_i\frac{q_i}{|\mathbf{x}-\mathbf{x}_i|}\Big]$$