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Here x and y are points in  $\mathbb{R}^3$ , k is a real scalar, and  $\delta$  is the three-dimensional delta function. The index of refraction n(x) we assume to be a positive, bounded, real-

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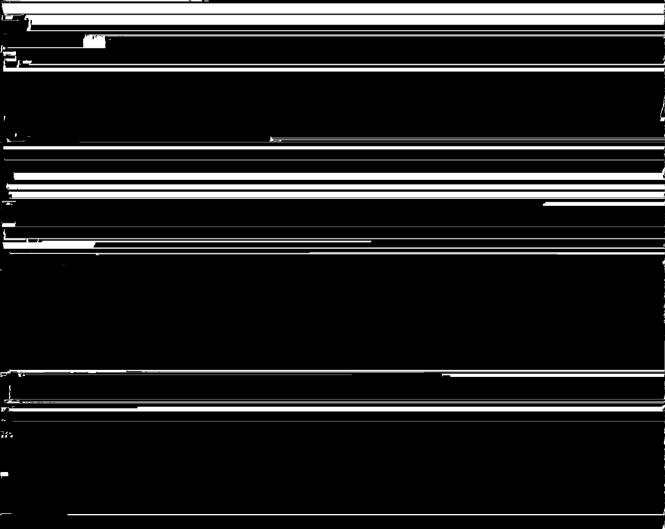
*Proof.* The proof, based on the use of Green's formula, is similar to the corresponding proof in [3] and is omitted here.

$$\int_{\partial\Omega} \left( G_0^-(z-x) \frac{\partial}{\partial\nu} G_0^+(z-y) - G_0^+(z-y) \frac{\partial}{\partial\nu} G_0^-(z-x) \right) dS_z$$
$$= G_0^-(y-x) - G_0^+(x-y).$$
(2.6)

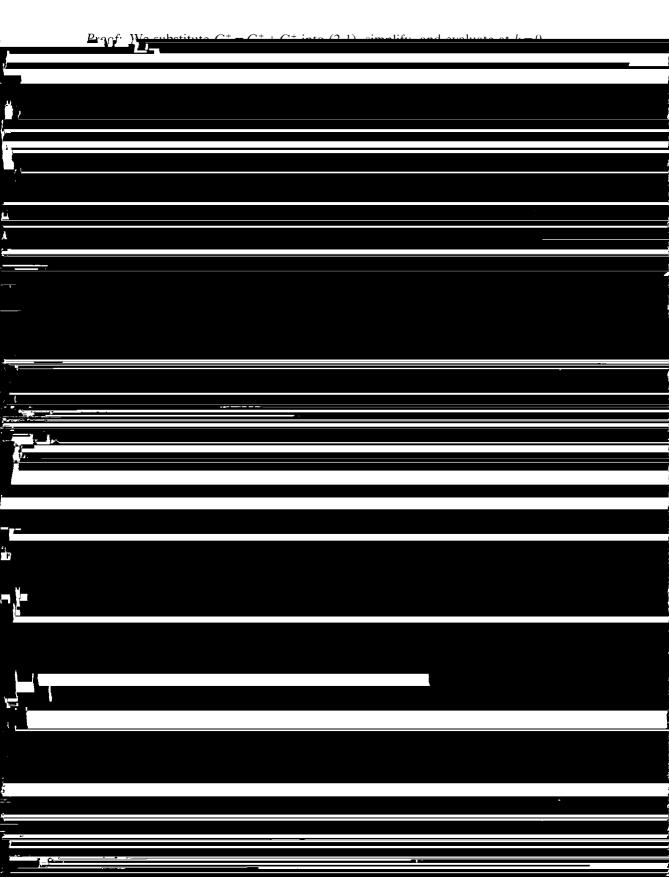
*Proof.* We set n(x) equal to one in theorem 1.

Corollary 2. Suppose the hypotheses of theorem 1 hold and  $G^{\pm} = G_0^{\pm} + G_{sc}^{\pm}$ . Then

$$G_{\rm sc}^{-}(y,x) - G_{\rm sc}^{+}(x,y) = \int_{\partial\Omega} \left( G_{0}^{-}(z-x) \frac{\partial}{\partial\nu} G_{\rm sc}^{+}(z,y) - G_{\rm sc}^{+}(z,y) \frac{\partial}{\partial\nu} G_{0}^{-}(z-x) \right)$$



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## Refereces

[1] Rose J H and Cheney M 1987 Self-consistent equations for variable velocity three-dimensional inverse

