(x, y)
?
$\left(\frac{1}{\mu} g_{k_s}(x, y) + \frac{1}{2} \nabla\nabla g_{k_s}(x, y)\right) -$
$\frac{1}{2} \nabla\nabla g_{k_p}(x, y)$
$:=_s$
$(x, y) +_p$
$(x, y), g_k =$
$\frac{1}{4} H_0^{(1)}(k|x -$
$y|). Helmholtz [?]_0^{(1)}(t)$
?
?
?
?
?
0
??
e_2
$y \in^2_+$
(x, y)
$q \in^2$
$\Delta_e[(x; y)q] +$
$\omega^2[(x, y)q] =$
$-\delta_y(x)q^2_+,$
$\sigma((x, y)q)e_2 =$
$0\Gamma_0, (\mathbf{??}) Green \delta_y(x)$
x_1
$\hat{(}\xi, x_2; y_2) =$
$\int_{(} x_1, x_2; y) e^{-\imath(x_1 - y_1)\xi} dx_1, \forall \xi \in$
$; 1$
$\hat{(}\xi, x_2; y_2) =$
$\hat{}_s(\xi, x_2; y_2) +$
$\hat{}_p(\xi, x_2; y_2)$
$\hat{}_s(\xi, x_2; y_2) =$
$\frac{1}{2\omega^2} \begin{pmatrix} \mu_s & -\xi \frac{x_2 - y_2}{|x_2 - y_2|} \\ -\xi \frac{x_2 - y_2}{|x_2 - y_2|} & \frac{\xi^2}{\mu_s} \end{pmatrix} e^{\imath \mu_s |x_2 - y_2|},$
$\hat{}_p(\xi, x_2; y_2) =$
$\frac{1}{2\omega^2} \begin{pmatrix} \frac{\xi^2}{\mu_p} & \xi \frac{x_2 - y_2}{|x_2 - y_2|} \\ \xi \frac{x_2 - y_2}{|x_2 - y_2|} & \mu_p \end{pmatrix} e^{\imath \mu_p |x_2 - y_2|}. \mu_\alpha =$
$(k_\alpha^2 -$
$\xi^2)^{1/2} \alpha =$
s, p
$k_p =$
$\omega / \sqrt{+2\mu}, k_s =$
$\omega / \sqrt{\mu}$
(x, y)
$x =$
y
$_c(x, y) =$
$(x, y) -$
$((x, y) -$
$(x, y')), _1, -y_2)$
x_1
$\mathbf{????}_c(x, y)$
$\Delta_e[_c(x; y)q] +$
$\omega^2[_c(x, y)q] =$
$0^2_+,$
$\sigma(_c(x, y)q)e_2 =$
$-\sigma((x, y) -$
$(x, y'))\Gamma_0, \in$
$C \setminus \{0\}$
$z^{1/2} \sqrt{z}$
$\Im(z^{1/2}) \geq$
0
$z =$
$z_1 +$
$\mathbf{i} z_2$
$z_1, z_2 \in$
$^{1/2} =$
$sgn(z_2) \sqrt{\frac{|z| + z_1}{2}} +$
$\imath \sqrt{\frac{|z| - z_1}{2}}, \forall z \in$
$\setminus^-_+ . ^{1/2} \to$
0^+
$(z +$
$_1)^{1/2}$
$(z -$
$_1)^{1/2}$