Zero-order ray-theory Green tensor in a heterogeneous anisotropic medium

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Green tensor:

\[ G_{in}(x, x', \omega) \]

Zero-order ray-theory approximation:

\[ G_{in}(x, x', \omega) \approx \frac{g_i(x) C_n(x')}{\sqrt{\rho(x) v(x) L(x, x')}} \exp[i \varphi(x, x')] \exp[i \omega \tau(x, x')] \]

Representation theorem:

\[ G_{in}(x'', x, \omega) \rightarrow G_{in}(x'', x', \omega) \]

\[ g_i(x) C_n(x') = \text{const} \quad C_i(x) C_n(x') \implies C_i(x) \]

\[ \varphi(x, x') = \varphi(x'', x) + \varphi(x'', x') + \text{const} \implies \text{phase shift rule, } \varphi(x, x') \]
Reference:

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