

Initialize: $q^a = q^{\min} = -h, q^b = q^{\max} = h, p^a = p^b = p,$
 $j = Nl, I(p) = 0, \Pi^a = (Nl), \Pi^b = (Nl), C = (T, T), \text{step} = 0$

Trace back (q_j^a, p_j^a) and (q_j^b, p_j^b) and find the lines k and l from which they are emitted. $\Pi^a = (k, \Pi^a), \Pi^b = (l, \Pi^b), \text{step} = \text{step} + 1$

Are they emitted from the same line ($k = l$)?

Yes

No

Are they emitted from the source ($k = 1$)?

No

Yes

Do they reach the target ($j = Nl$)?

Yes

No

$L_{\Pi^a}(q, p) = L_{\Pi^a}(q, p)$

$j = k$

Is $C(\text{step}) = T$?

Yes

No

Calculate the coordinates (q_j^a, p_j^a) and (q_j^b, p_j^b) of the transmitted rays

Calculate the coordinates (q_j^a, p_j^a) and (q_j^b, p_j^b) of the reflected rays

Apply bisection to (q^a, p) and (q^b, p)

Find (q^c, p) and (q^d, p) where $|q^c - q^d| < \text{toll}$ and $\Pi^c = \Pi^a$

$(q^b, p) = (q^c, p)$

$(q^a, p) = (q^d, p)$