

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

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. $\Pi^a = (k, \Pi^a), \Pi^b = (l, \Pi^b)$

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

Yes

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

Yes

Is $j = Nl$?

Yes

$I(p) = I(p)$

No

$j = k$

No

$I(p) = I(p) + |q^a(\Pi^a, p) - q^b(\Pi^a, p)|$

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 $\Pi^c = \Pi^a$

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

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