

EXERCISE: PROPAGATION OF SEISMIC WAVES

- Use Fermat's principle to find the minimum time path from source to detector.
 1. Draw a straight line from source to detector, measure distance in each medium and divide those distances by the appropriate velocity to find the total travel time from source to detector along this straight path.
 2. Use grid points on the refractor (on both sides of the intersection found in 1) as "refraction points" and calculate (*as above*) the total travel time from source to detector through these grid points.
 3. Determine which grid point gives minimum travel time and hence the true refraction point and minimum travelttime path.
- Measure angles of incidence and refraction and check that the minimum travel time path satisfies Snell's law.
- Draw wavefronts every 100 ms using Huygen's principle.

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