5. Waves across a planal interface
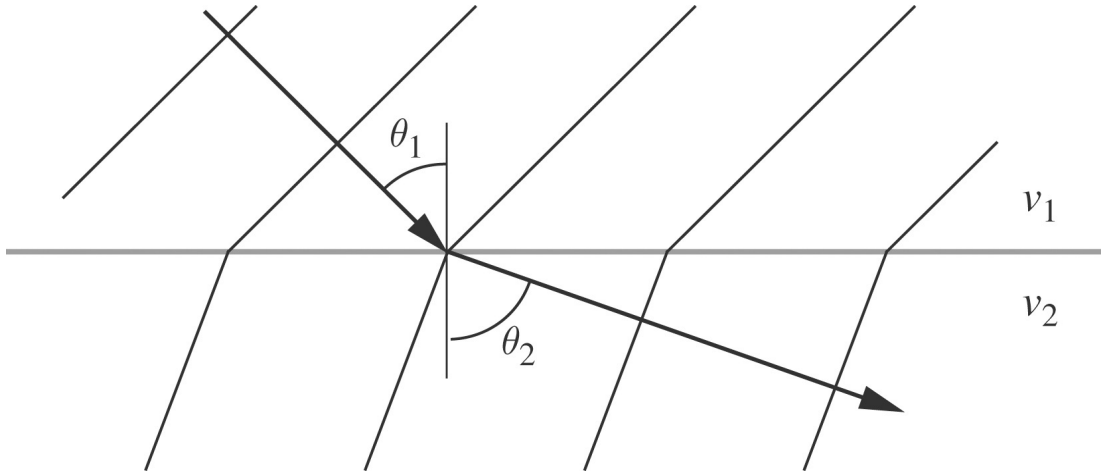
M. Ravasi | ERSE 210 Seismology
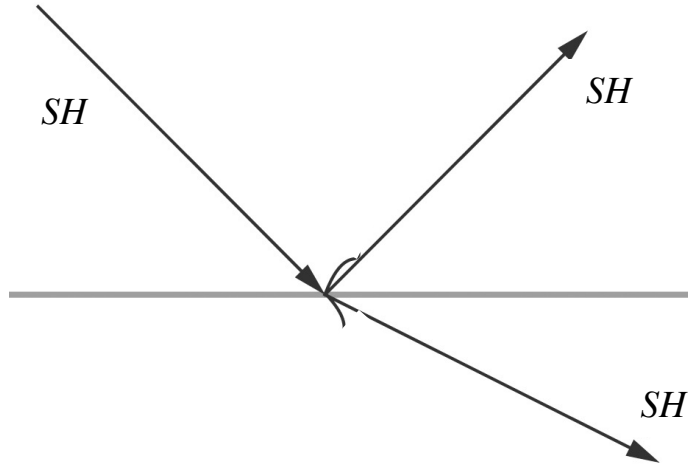
Seismic propagation

- **Kinematic:** Snell's Law

- **Dynamic:** Lamb's problem

Snell's law

$$p_x = \frac{sin\theta_1}{v_1} = \frac{sin\theta_2}{v_2}$$

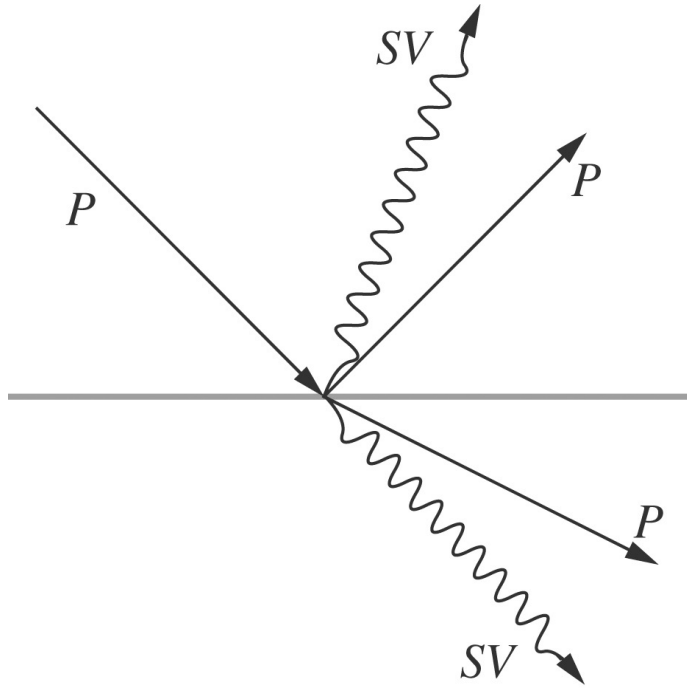# SH Transmission & Reflection coefficients

- **Continuity of displacement**

$$u_y^+ = u_y^-$$

- **Continuity of traction**

$$\tau_{zy}^+ = \tau_{zy}^-$$

P/SV Transmission & Reflection coefficients

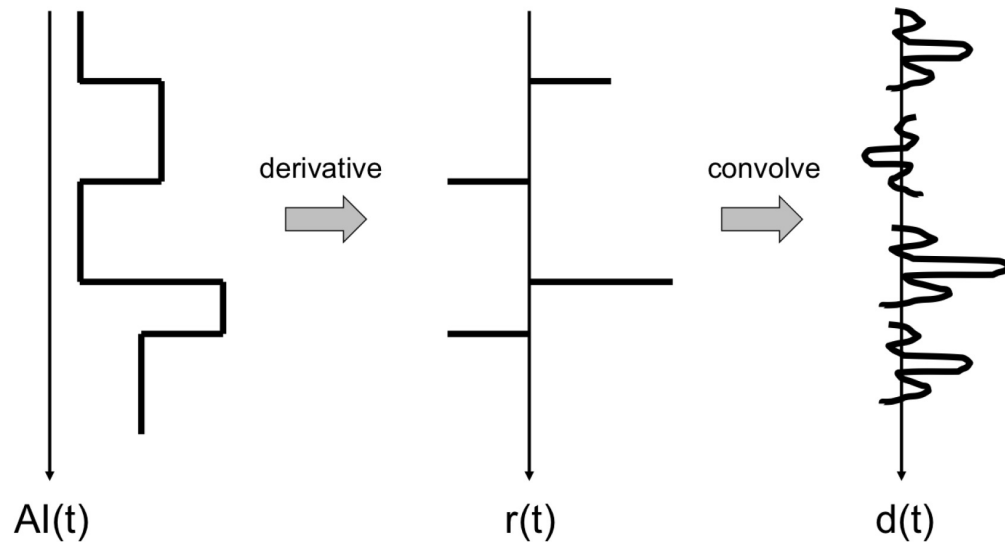- **Continuity of displacement**

$$u_x^+ = u_z^-$$

$$u_z^+ = u_z^-$$

- **Continuity of traction**

$$\tau_{zx}^+ = \tau_{zx}^-$$

$$\tau_{zz}^+ = \tau_{zz}^-$$

Convolutional modelling

AI(t)　　　　　　r(t)　　　　　　d(t)

$$d(t) = w(t) * \frac{d(ln(AI(t))}{dt}$$