1023-J1-259   **Andrew J. Simoson*** (`ajsimoso@king.edu`), King College, 1350 King College Road, Bristol, TN 37620. *A matrix route to Snell's law.*

By way of a barbell variation of Descartes' model of a rolling ball crossing from hardwood onto a carpet, Snell's law of wave refraction can be elementarily derived without invoking Fermat's least time principle. The key to the derivation involves determining the components of e^{At} where A is a 4×4 matrix and t is time. (Received August 31, 2006)