**TP 6.3**
Increase in bank rebound angle due to the rail coefficient of restitution

Neglecting friction,

\[ v_t' = v_t \]

From the coefficient of restitution,

\[ v_n' = e \cdot v_n \]

**Approach angle:**

\[ \theta_a = \tan \left( \frac{v_t}{v_n} \right) \]

**Rebound angle:**

\[ \theta_r = \tan \left( \frac{v_t'}{v_n'} \right) \]

Because \( e < 1 \),

\[ v_n' < v_n \quad \text{and} \quad \theta_r > \theta_a \]

supporting:

“The Illustrated Principles of Pool and Billiards”

[http://billiards.colostate.edu](http://billiards.colostate.edu)

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