

Sliding to a stop and accident reconstruction

Eyewitness accounts of traffic accidents are often unreliable or unavailable. Investigators often attempt to reconstruct accidents using the laws of physics: friction forces, conservation of linear and angular momentum. One such example is analysing tire marks using the slide to stop equation to determine whether a vehicle was moving at dangerous speeds.

- Explain how this equation is derived, using force, not energy, arguments. (Both are valid but the force arguments fit better with the point we are at in the course.)
- Describe the measurements that must be made in order for the equation to be useful. What are typical values for these measurements?
- Give an example of the application of this equation, ideally using authentic or at least realistic numbers.
- Do not endanger yourselves or others while trying to generate experimental results!