

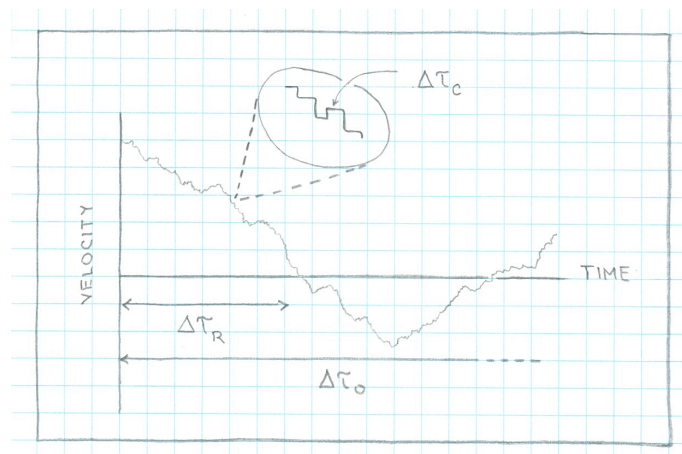
Relevant Time Scales [nlh64]

Conceptually, it is useful to distinguish between *heavy* and *light* Brownian particles. For the most part, only Brownian particles that are heavy compared to the fluid molecules are large enough to be visible under a microscope.

Time scales relevant in the observation and analysis of Brownian particles:

- $\Delta\tau_C$: time between collisions,
- $\Delta\tau_R$: relaxation time,
- $\Delta\tau_O$: time between observations.

Heavy Brownian particles: $\Delta\tau_C \ll \Delta\tau_R \ll \Delta\tau_O$.



Light Brownian particles: $\Delta\tau_C \simeq \Delta\tau_R \ll \Delta\tau_O$.

