

Definitions

Proper time:

- Time along a path as measured by one clock (most general definition, formula with integral)
- Time between two events measured in the frame in which they happen at the same place (can compute from spacetime interval, agrees with general definition for constant velocity paths)

Proper length:

- The length of an object as measured in its own reference frame. The object appears shorter when moving.

Proper distance:

- Distance between two spacelike events as measured by an observer who sees them at the same time. Can be computed from spacetime interval.