

In my frame (S) I measure two events which occur at the same place, but different times t_1 and t_2 (they are NOT simultaneous)

Might you (in frame S') measure those SAME two events to occur simultaneously in your frame?

- A. Possibly, if I'm in the right frame!
- B. Not a chance
- C. Definitely need more info!
- D. ???

TRUE or FALSE: For any trajectory in a "1+1"-dimensional Minkowski diagram, the slope can be **no greater** than 1.

- A. True
- B. False

Two events have a timelike separation. In a "1+1"-dimensional spacetime (Minkowski) diagram (x horizontal, ct vertical), the magnitude of the slope of a line connecting the two events is

- A. Greater than 1
- B. Equal to 1
- C. Less than 1

Consider the world line of an object drawn on a Minkowski (space-time) diagram. At any point in that space, the slope of that line is:

- A. larger than 1
- B. less than 1
- C. able to take on any value

Points that lie outside the light cone for a given event are:

- A. accessible no matter where they are
- B. accessible for given world lines (trajectories)
- C. always inaccessible

The space time interval is defined by:

$$I \equiv x^2 - c^2 t^2$$

Events with common space time intervals lie on a hyperbola of constant I .

True or False: A Lorentz boost (change to another inertial frame) can allow you to shift between different hyperbolas.

- A. True
- B. False