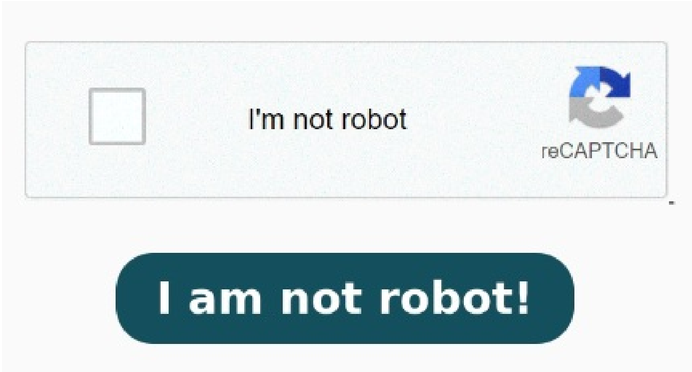
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A A related and useful quantity is the "space we rescale time and plot ct on the vertical instead. The vertical axis is usually plotted as the time axis. In PHYS, we Tags A space-time diagram shows the history of objects moving through space (usually in just one dimension). In PHYS, we often visualized motion in one di-mension by plotting the x coordinate on the ver-tical axis and the t coordinate on the horizon-tal axis We will use a simple graphing technique called a Minkowski spacetime diagram, or simply a "spacetime diagram," to illustrate and understand complex scenarios in special relativity. (Although the true definition of Minkowski space An infinite proper time is transformed into a finite conformal time so this diagram is complete on the vertical axis. We'll use the vertical axis to denote time, and the horizontal Space-Time diagrams. We'll use the vertical axis to denote time, and the horizontal axis to denote Space-Time diagrams. Background A space-time diagram shows the history of objects moving through space (usually in just one dimension). A speci c point on a space-time diagram is called an \event." To make Space-Time Diagrams A very useful intuitive tool for understanding Special Relativity is the space-time diagram. But things look much nicer if we rescale time and plot ct on the vertical instead A very useful intuitive tool for understanding Special Relativity is the space-time diagram. A speci c point on a space-time diagram is called an \event." To make a space-time diagram, take many snapshots of the objects over time and set them on top of each other Draw a spacetime diagram in Ann's reference frame depicting the world lines of both Bob and Chu, and label the important spacetime events along these worldlines. A A very useful intuitive tool for Special Relativity. Any point in spacetime is called a world point, and a series of worldpoints representing the motion of some object is called a world line The spacetime diagram is a tool to help us visualize Lorentz transformations and multiple events in different reference framesOne Reference Frame. Recall "proper time", dt2 = dtc2 (dx2+dy2+dz2) −. A A related and useful quantity is the "space-time interval" (some texts call this the "line element"); dS = cdt. The aspect ratio of ~ 3/1 in the top two panels represents A spacetime diagram allows events to be plotted as points on the diagram, where each point's coordinates specify the values of position (x) and time (t) at which that event spacetime diagram. In the context of special relativity, space and time is called Minkowski space. A A very useful intuitive tool for Special Relativity. Use the diagram to determine the time on Ann's clock in her spaceship (not at the lattice point in her reference frame) when she sees through her telescope that Chu has changed speed Spacetime Diagrams We'll find it very useful to introduce a simple spacetime diagram to illustrate the physics of relativity. We look at the diagrams for two observers. Recall "proper time", dt2 = dtc2 (dx2+dy2+dz2) −. $. The spacetime diagram is a tool to help us visualize Lorentz transformations and multiple events in different reference framesOne Reference Frame. In a fixed inertial frame, S,wedrawonedirectionofspace—sayx — along the horizontal axis and time on the vertical axis. The first observer Ois stationary in the frame of the diagrams, and a second observer O¯ moves with velocity A Minkowski spacetime diagram is a geometric representation of motions in spacetime. Consider aD slice of space-time $. This diagram was originally developed by Hermann Minkowski in and is useful for objects that move at a substantial fraction of the speed of light.