Short Introduction to these Programs 'engl.' version 1.00

Right from the beginning I intended to create such a program for the Epstein-Type of space-time-diagrams. In april 2007, having finished the last chapter of my book "Epstein erklärt Einstein", I started reading the book "Understanding Relativity" of Leo Sartori and there I got familiar with the Loedel- und Brehme-type of space-time-diagrams. Mainly the Loedel-diagrams are very interesting, their position is somewhere between the Minkowski- and the Epstein-diagrams. They take advantage from both, but clearly pay for it with some slight disadvantages. My next project might be to compare the various types of space-time-diagrams and to work out their relations...

The three programs presented here all look and work very similar. The possibilities to change some parameters do not need much explanation. Two functions are slightly hidden:

- the origin of the coordinate frames can be dragged around with the mouse
- a mouse click elsewhere in the diagram shows the diagram-specific projections, and the calculated values of the coordinates are filled into the corresponding text fields

It is very important to have a good comprehension of the zero point on the time scale. Then all clocks on the space axis of the **preferred** coordinate frame are set to zero - and the same holds for the 'mother clock' of the other coordinate frame, that is right then in the coordinate origin. But all the other clocks on the space axis of the 'fast' system are **not** put to zero then, their time values correspond to the specific desynchronization of time.

Then you should not wonder that nothing is going to happen if you change the value of the time slider before introducing an object into empty space-time. Time does not exist in empty space (and space neither ...) !! And the shere presence of the coordinate frame does not change much, because of its static nature. You have to make one or both of the 'objects' visible - and you become Lord of the Time, controlling it, making it flow back and forth, and, most of your time, let it be frozen, and so inspecting one of its certain moments.

Enjoy playing with these programs, compare the **different presentation of the same ideas** ! How are, in each version, the three main phenomena presented: time dilatation, length contraction and desynchronization ?

My favorite example is the car (rest length 6 m), that is driving with 0.8·c through a strange garage (of rest length 6 m) with a door in its front and its rear. It takes the car 15 ns to fully enter the garage, then it drives for 10 ns completely within this garage (you could close both doors for that time intervall !), and then it needs another 15 ns to leave the garage by the back door. Give an explanation of that in the car's frame !

"David Eckstein"

p.s. I would be thankful for a version of this text in 'real english'. I am used to read this language, but, as you will have noticed immediately, I lack the practice of speaking and writing it ...

send your improved version to david.eckstein-at-bluewin.ch many thanks !