About || Browse || Search || Register || Registered Users Area || Help

The Non-Local to Local Space-time Map

Hoiland, Paul Karl (2003) The Non-Local to Local Space-time Map.

Full text available as:
PDF - Requires a viewer, such as Adobe Acrobat Reader or other PDF viewer.

Abstract

While for point particles a local theory seems to be sufficient, when it comes to extended objects like Strings and Branes you by rights are not dealing with a specifically fully localized particle to begin with. This also is not the case for non-inertial particles interacting with a wave field (like, e.g., an accelerated atom interacting with the quantized electromagnetic field). The fact that a wave has an extension seems to make a non-local treatment necessary. By the same fact a String or a Brane has an extension and makes non-local treatment necessary also. It is possible to define non-locally an extended frame of reference for an observer moving non-inertially or inertially in a curved space-time. We proposed to demand that the spacelike hypersurfaces providing the planes of constant time in the extended frame have to be perpendicular to the observer's time whenever an event occurs.

Keywords:	Non-local frames, Holographic Model of Quantum states, The Zero Point, Quantum Mechanics, Braneworld aspects
Subjects:	Specific Sciences: Physics: Quantum Mechanics
ID Code:	1365
Deposited By:	Hoiland, Paul Karl
Deposited On:	04 September 2003

Send feedback to: philsci-archive@library.pitt.edu