Materials of Conferences

NOT SPECIAL SPACE-TIME

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In this article, the approach to the description of additional coordinate similar to time with potential field use in the generalized space-time is offer. From the point of view wave time for *H* boson, hypothetically [1], it means use of either prompt or slow fictitious coordinate similar to time.

In representation of an article [2], the multidimensional version of space-time intended for the project of field interactions within the limits of the multidimensional theory of space-time with use of compact additional coordinates of space-time is offer. The understanding of a space-time, such as a product topology of the seven-dimensional space over four-dimensional space-time is present.

In three-dimensional spatial section for space-time at some selection of a coordinate frame of reference, transformation of three-dimensional metrics can be clear. The understanding of a space-time dimensionality can be clear, how a product topology of additional seven-dimensional space over four-dimensional space-time with the general signature $(+ - - - - - - \ldots)$.

$$R = R^4 \& R^7, \tag{1}$$

where R – dimensionality of space-time. Value for space-time dimensionality can be incremented to equal ten or eleven [2] under condition of the evaluation on field of strong interactions.

Hypothetically, the sizes of compactness for characteristic additional coordinates define itself by property of the particles, which spread fundamental interactions. Allow us to use space-time with some group of additional coordinates for the description of field interactions and inertial gravitation.

Let us guess in this article, for example, that the understanding of space-time, such as a superstructure of eight-dimensional space-time over four-dimensional space-time is spotted.

$$R = R^4 \text{☆} R^8;$$

$$R^8 = R^4 \& R^4. \tag{2}$$

Hypothetically in space-time with the signature $(+ - - - + - - \ldots)$ the inertial metric is spotted. According to comparison of formulas (1) and (2), we can accept besides it time-like fifth or twelfth coordinate as hypothetically corresponding value to introduction of potential for interaction field. The potential tensor may be scalar, or vector, or matrix for the description of interactions.

Dimensionality of space-time is based on field classification for four-dimensional space-time.

Thus, in the approach with compact additional coordinates the space-time, such as **the superstructure**, of eight-dimensional **space-time** over not special four-dimensional space-time ($R^4 \text{☆} R^8$), probably [1], **leads to introduction of potential for a scalar field**.

References

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2. Witten E. Search for a realistic Kaluza-Klein theory, Nuclear Phys. – B 186. – 1981. – P. 412–428.