Contribution ID: **52** Type: **Poster**

Discrete Relativity : a Prediction in Nuclear Physics

Tuesday 6 September 2022 19:40 (2 minutes)

Null four-vectors of General Relativity (GR), suggest mathematical developments. Two of them are presented. It is reminded that in GR a privileged frame exists, which is the frame in whch time elapses the most. It is showned that a particle generates locally a space-time deformation, which transforms this privileged frame according to the boost associated with its velocity in this frame. From this remark in physics and those mathematical developments, the motivation as well as the first developments of a new and discrete relativity appears naturally. It uses a four-momentum instead of the stress-energy tensor for calculation of space-time structure. It is showned that the surrounding effect prevailing in [1] appears also as the inner part of such a model. Under an unifying assumption, this surrounding effect appears in particle physics as well and suggests a scheme for a possible solution of the Yang-Mills Millennium problem.
[1] F. Lassiaille, EPJ Web of Conf 182 03006 (2018).

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Session Classification: Poster session