Global scheme of the basic interactions and their geometrical interpretations

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Our space-time consists of three 3-dimensional spaces: space S, space rotations SR and time T. First are considered the basic possible 4 cases for exchange among them: 1. $r \to s$, 2. $s \to r$, 3. $r \to t$, and 4. $s \to t$, where $s \in S$, $r \in SR$, and $t \in T$. Analogous to the affine group of translations and rotations $\mathcal{A}$, it is considered a space group G_s of 6×6 matrices, which is isomorphic to the group $Spin(4)$. The space metric observed by the particles is found. Further are considered 4 generalized exchanges 1^*, 2^*, 3^* and 4^*, induced by the cases 1, 2, 3, and 4. The case 1^* leads to the electro-weak interaction, and it is a consequence of non-commutativity between one translation and one rotation in the space group G_s. The case 2^* leads to the strong interaction, and it is a consequence of non-commutativity between two translations in the space group G_s. It leads also to the galactic acceleration which is observed at the periphery of each galaxy, and now we do not need dark matter in order to explain the motion of the distant stars in the galaxies. The case 3^* leads to electromagnetic interaction, and it is a consequence of non-commutativity between one translation and one rotation in the affine group $\mathcal{A}$. The case 4^* leads to gravitational interaction and it is a consequence of non-commutativity between one translation and one "radial translation" in the affine group $\mathcal{A}$. The corresponding accelerations are deduced and for a fixed space positions they are of type $\mathbf{a} = \mathrm{rot}(\vec{\varphi})$ (gauge invariant), but the quantum and wave effects are neglected. It is also predicted a new gravity-weak interaction, which belongs to the case 2^*.