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**Zbigniew Oziewicz\*** (oziewicz.zbigniew@gmail.com), UNAM Facultad de Estudios Superiores, Estado de Mexico, 54715 Cuautitlan Izcalli, Mexico. *Metric tensor is groupoid.*

A category in which every morphism is isomorphism is said to be the groupoid category. Groupoid category (with many objects) generalize the one-object group category. The concept of a groupoid (that is not a group) was invented by H. Brandt in 1927. I am going to present several examples of very important groupoids, that include every metric tensor is a groupoid. Another example is a groupoid category of velocities-isomorphism with associative composition, contrasted with the Einstein non-associative composition of reciprocal velocities considered by Larissa Sbitneva since 2001 within the loop theory together with Lev Sabinin. Recently Jerzy Kocik presented this loop non-associative composition in beautiful geometric framework. Instead I will contrast non-associative quasi-groups and loops with associative groupoids. (Received January 23, 2018)