Duality and Non-Geometry From Double Geometry

We discuss double diffeomorphisms, in particular the observation that infinitesimal transformations preserve solutions to the section condition. It is shown how the defining O(d,d) metric can be seen as an (ordinary) metric on the double manifold. By extending the doubled diffeomorphisms with its isometries, transformations filling out the whole T-duality group are obtained. Such transformations can also play the rôle as monodromies in constructions of non-geometric field configurations. While a systematic way of relaxing the section condition without losing control of the gauge symmetry is lacking, this construction fills in the previous gap in the understanding of the relationship between gauge symmetries and dualities.