

David Carchedi : Derived manifolds as dg-manifolds

mercredi 28 juin 2023 15:30 (1 heure)

When two submanifolds meet non-transversely their intersection may fail to be a manifold. However, such bad intersections can be dealt with as smooth objects in the setting of derived geometry. Derived manifolds are objects constructed by iteratively taking fibered products, starting with smooth manifolds. We will show how such a theory can be derived from basic principles and explain its connection to derived algebraic geometry. Specifically, we will explain a joint result with Pelle Steffens which characterizes derived manifolds by a universal property. Then we will explain a recent result of ours that shows that the infinity category of dg-manifolds arising from the category of fibrant objects structure of Behrend-Liao-Xu is equivalent to the infinity-category of derived manifolds.