

Smooth A_∞ form and reflexivity of diffeological spaces

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空間の代数的・幾何的モデルとその周辺

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To construct an A_∞ -structure for a loop space in the category of diffeological spaces, we have two minor problems. Firstly, the concatenation of paths in the category of diffeological spaces needs a small technical trick (see P. I-Zemmour [MR3025051]), which apparently restricts the number of iterations of concatenations. Secondly, we do not have a natural decomposition of an associahedron as a smooth simplicial or cubical complex. By resolving these difficulties, we show that the smooth loop space of a nice diffeological space is a h-unital smooth A_∞ -space (arXiv:2207.08402)