A FRAMEWORK OF RATIONAL HOMOTOPY THEORY FOR DIFFEOLOGICAL SPACES

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By making use of Halperin's local systems over simplicial sets and the model structure of the category of diffeological spaces due to Kihara, we introduce a framework of rational homotopy theory for such smooth spaces with arbitrary fundamental groups. As a consequence, we have an equivalence between the homotopy categories of fibrewise rational diffeological spaces and an algebraic category of minimal local systems elaborated by Gómez-Tato, Halperin and Tanré. With the $(\ )_*$-*construction*, rational homotopy theory for nilpotent diffeological spaces can be incorporated in our framework. This talk is based on the article [1].

References

[1] K. Kuribayashi, Local systems in diffeology, preprint (2023).
    http://marine.shinshu-u.ac.jp/~kuri/dvi/RHT_for_Diff-v4-1.pdf.

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