

AN INTRODUCTION TO MODERATELY DISCONTINUOUS HOMOLOGY

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ABSTRACT. In this course we study the basic facts on Moderately Discontinuous Homology.

In the first lecture, we define the Moderately Discontinuous Homology and we present some basic properties and examples, for instance, the Moderately Discontinuous Homology of a “point” and its bi-Lipschitz invariance with respect to the inner distance.

In the second lecture, we present some results on homotopy invariance of the Moderately Discontinuous Homology and also a Mayer-Vietoris Sequence.

Finally, in the third lecture, we present some finiteness results and some applications of the Moderately Discontinuous Homology.

All the results of this course are contained in the article *Moderately Discontinuous Homology*. **Communications on Pure and Applied Mathematics** (2021), 1-78, DOI: <https://doi.org/10.1002/cpa.22013>, arXiv:1910.12552 [math.AG], written jointly with Javier Fernández de Bobadilla, Sonja Heinze and Maira Pe Pereira.

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