MATHEMATICS DEPARTMENT 25TH YEAR SEMINARS

Simplicial analogues of homotopic distance

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Abstract: Homotopic distance as introduced by Macias-Virgos and Mosquera-Lois in [2] can be realised as a generalisation of topological complexity (TC) and Lusternik Schnirelmann category (cat). In this talk, we will introduce a simplicial analogue (in the sense of Gonzalez as in [1] and as given in [3]) of homotopic distance and show that it has a relation with simplicial complexity (SC) as homotopic distance has with TC. We will also have a quick glance at contiguity distance as introduced in [2] and improved in [4].

References

[1] J. Gonzalez, *Simplicial Complexity: Piecewise Linear Motion Planning in Robotics*, New York Journal of Mathematics 24 (2018), 279-292.

[2] E. Macias-Virgos, D. Mosquera-Lois, *Homotopic Distance between Maps, Mathematical Proceedings of the Cambridge Philosophical Society (2021)*, 1-21.

[3] C. Ortiz, A. Lara, J. Gonzalez, A. Borat, *A randomized greedy algorithm for piecewise linear motion planning*, Mathematics, Vol 9, Issue 19 (2021).

[4] A. Borat, M. Pamuk, T. Vergili, *Contiguity Distance between Simplicial Maps*, submitted, 2020. ArXiv: 2012.10627.

Date: November 11, 2021; Friday

Time: 18:00

Place: Zoom