Insalate di Matematica *presents*

Random Differential topology





Abstract

I will talk about the differential geometric properties of random maps and random submanifolds, starting by presenting the examples coming from real algebraic geometry (Kostlan polynomials) and Riemannian geometry (Riemannian waves). Many known results in both contexts can be seen as a consequence of much more general principles that I will describe. These will be: a Gaussian version of Thom transversality theorem and a criterion for the convergence in law of the diffeomorphism type of the zero set of a sequence of Gaussian fields.



Keywords:

Differential topology · random maps · random submanifolds

"Obvious" is the most dangerous word in mathematics. - Eric Temple Bell