Conservation always and almost conservation laws for dispersive equations

Nicola Visciglia[1]

[1] Università di Pisa

Several celebrated dispersive equations are completely integrable, in the sense that they enjoy infinitely many conservation laws involving high order Sobolev norms. As a consequence it is possible on one hand to show the boundedness of high Sobolev norms, and on the other hand to deduce invariance of the associated Gibbs measures supported on spaces with high regularity. There are other relevant dispersive models which are not completely integrable. Nevertheless we shall show how to construct for some of those models a family of almost conservation laws that allow us to give upper bounds on the growth of high Sobolev norms. At the hand of the talk we shall discuss the possibility to use almost conservation laws to deduce some results about quasi-invariance of Gaussian measures for no completely integrable models.