

Well-posedness for continuity equations for vector fields with Osgood modulus of continuity

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Abstract

In this talk we discuss the existence and uniqueness of solutions to linear continuity equations for non-smooth vector fields. The key assumption for us will be on the modulus of continuity of the vector field instead of its divergence, which is more common. The existence in this case will be quite natural, as it follows from the existence of a flow. The uniqueness is more delicate: Our proof takes advantage of optimal transport theory.