

ABSOLUTELY CONTINUOUS SOLUTIONS FOR CONTINUITY EQUATIONS IN HILBERT SPACES

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Abstract: This is a joint work with Giuseppe Da Prato.

We prove existence and uniqueness of solutions to continuity equation in a separable Hilbert space. We look for solutions which are absolutely continuous with respect to a reference measure γ which is the invariant measure of a reaction-diffusion equation. We exploit that the gradient operator D_x is closable with respect to $L^p(H; \gamma)$ and a recent formula for the commutator $D_x P_t - P_t D_x$ where P_t is the transition semigroup corresponding to the reaction-diffusion equation, [DaDe14]. We stress that P_t is not necessarily symmetric. Our paper is an extension of [DaFlRo14] where γ was the invariant measure of a suitable Ornstein-Uhlenbeck process.