

Solutions to LANS equations in integrable in time spaces

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Abstract

We will show the short-time existence of solutions to the LANS equation $\partial_t u + (u \cdot \nabla)u + \operatorname{div} \tau^\alpha = -\operatorname{grad} p + \nu \Delta u$ for $u_0 \in H^{k,p}(\mathbb{R}^n)$ for small k . Our solutions will be in the space $(L^q((0, T) : H^{s,r}(\mathbb{R}^n))$, called the space of integral norms in time.