On factorization of a J-selfadjoint operator arising in fluid dynamics

V. Strauss joint work with M. Chugunova

We prove that some non-self-adjoint differential operator associated with the periodic heat equation admits a factorization and apply this representation of the operator to construct explicitly its domain and to prove compactness of its resolvent. Let us note that this operator is J-self-adjoint in a chosen Krein space.