STABILITY OF THE EKMAN BOUNDARY LAYER

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ABSTRACT

For rotating layers as the Ekman boundary layer a well-established mathematical model is given by the Navier-Stokes equations with Coriolis force, considered in a half-space or a layer. The famous so called Ekman spiral, describing the motion inside the boundary layer, is an exact stationary solution of this system. A crucial point is that this special solution has finite energy. Thus, it appears to be natural to investigate well-posedness and stability (in all appearing parameters) of the corresponding model in non-standard classes containing nondecaying (i.p. almost periodic) functions. In my talk I therefore intent to present an approach to the Ekman boundary layer problem in vector-valued Besov spaces and in spaces of vector-valued Radon measures.