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Spectral problems for block operator matrices in hydrodynamics

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In the linear stability analysis of hydrodynamics, the spectra of non-symmetric systems of coupled differential equations have to be studied. As examples, we consider the Ekman boundary layer problem and the Hagen Poiseuille flow with non-axisymmetric disturbances. In both cases we investigate the essential spectrum by means of operator theoretic methods. (joint work with M. Marletta, Cardiff)