

**Abstract:** In this talk, we shall prove the global existence and the large time decay estimate of solutions to Prandtl system with small initial data, which is analytical in the tangential variable. The key ingredient used in the proof is to derive sufficiently fast decay-in-time estimate of some weighted analytic energy estimate to a quantity, which consists of a linear combination of the tangential velocity with its primitive one, and which basically controls the evolution of the analytical radius to the solutions. Our result can be viewed as a global-in-time Cauchy-Kowalevsakya result for Prandtl system with small analytical data, which in particular improves the previous result in \cite{IV16} concerning the almost global well-posedness of two-dimensional Prandtl system. In the last part, I shall also mention our recent result on the global well-posedness of this system with optimal Gevrey data. (This is partially joint work with Marius Paicu, Chao Wang and Yuxi Wang).