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*Gelfand-Zetlin system for  $GL(\infty)$*

In the 1980s, Guillemin and Sternberg constructed an integrable system on the coadjoint orbits of  $U(n)$ . This is a geometric analogue of the classical Gelfand-Zetlin bases for irreducible representations. A complexified version was later discovered by Kostant and Wallach on the Poisson manifold  $\mathfrak{gl}(n)^*$  in 2006. I will describe an infinite-dimensional analogue of this system on coadjoint orbits of  $GL(\infty)$  and discuss some of the associated (infinite) Poisson geometry. This talk is based on joint work with Mark Colarusso.