Abstract

A source of richness in Teichmüller theory is that Teichmüller spaces have descriptions both in terms of group representations and in terms of hyperbolic structures and complex structures. A program in higher-rank Teichmüller theory is to understand to what extent there are analogous geometric interpretations of Hitchin components. In this talk, we will give a natural description of the $\mathrm{SL}(3, \mathbb{R})$ Hitchin component in terms of higher complex structures as first described by Fock and Thomas. Along the way, we will give a description of higher complex structures in terms of jets and discuss intrinsic structural features of Fock-Thomas spaces. We will also give a canonical description of Fock-Thomas spaces of all degrees $n \geq 3$ as infinitesimal deformations of Fuchsian representations.