Abstract

In this talk, no G_2 background is assumed and all relevant terminology will be defined. We discuss the non-abelian Hodge theory on the punctured sphere for the split real Lie group G'_2. We study almost-complex curves $v_q : \mathbb{C} \rightarrow \mathbb{S}^{2,4}$ in the pseudosphere $\mathbb{S}^{2,4}$ associated to polynomial sextic differential q. Focusing on the asymptotic geometry, we detect stable regions and critical lines where the limits of v along rays change. Moreover, we find such polynomial almost-complex curves have polygonal boundaries in $\mathsf{Ein}^{2,3}$ satisfying a condition we call the annihilator property. Time permitting, we discuss a conjectural homeomorphism from a moduli space of sextic differentials to a moduli space of annihilator polygons.