

HYPERBOLIC SUPERGEOMETRY, SUPER-TEICHMUELLER SPACES, AND APPLICATIONS

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Abstract: The Teichmueller space parametrizes Riemann surfaces of fixed topological type. It is fundamental in various contexts of mathematics and physics and can be defined as a component of the moduli space of flat $G=\mathrm{PSL}(2,\mathbb{R})$ connections on the surface. Higher Teichmueller space extends these notions to appropriate higher rank classical Lie groups G . Similarly, $N=1$ super Teichmueller space also studies the extension to the super Lie group $G=\mathrm{OSp}(1|2)$. In this talk, I will explain some fundamentals of hyperbolic supergeometry and their relation to Penner coordinates on the decorated $N=1$ super-Teichmueller space. In addition, I will discuss some applications, including the analogue of McShane identity for a 1-punctured super-torus.