Colin C. Adams, Or Eisenberg and Jonah Greenberg\* (jag9@williams.edu), 66 Hoxsey St, Williamstown, MA 01267, and Kabir Kapoor, Kate O'Connor, Natalia Pacheco-Tallaj, Zhen Liang and Yi Wang. Hyperbolicity and Turaev Hyperbolicity of Knots and Virtual Knots.

Since Thurston's work in the 1970's, we have known that many knots in  $S^3$  are hyperbolic with the corresponding hyperbolic volume as an invariant. We extend this invariant to virtual knots and links and discuss implications. Furthermore, we consider links in Turaev surfaces arising from projections of classical and virtual links. We show any link has a projection that can be realized as a hyperbolic link in the thickened Turaev surface. We therefore can assign a new hyperbolic invariant which we call the Turaev volume to the entire class of virtual and classical knots and links. (Received September 24, 2018)