

Abstract Submitted
for the MAR17 Meeting of
The American Physical Society

Too Soft to Stick: Influence of Substrate Modulus on Gecko Adhesion¹ MICHAEL WILSON, MENA KLITTICH, CRAIG BERNARD, ROCHELLE RODRIGO, AUSTIN KEITH, PETER NIEWIAROWSKI, ALI DHINOJWALA, University of Akron — The gecko adhesion system fascinates biologists and materials scientists alike for its strong, reversible, glue-free, dry adhesion. Geckos encounter a variety of surfaces in their natural habitats; tropical geckos, such as *Gekko gecko*, encounter hard rough tree trunks as well as soft flexible leaves. Gecko adhesion on a wide variety of hard surfaces has been extensively studied, however there has been no work focused on adhesion to soft surfaces. Here, we investigate for the first time the influence of substrate modulus on gecko adhesion using two different surfaces (cellulose acetate and polydimethylsiloxane). Understanding the limitations of the gecko system is critical for gecko experimental design as well as for the development of synthetic adhesives, particularly in the biomedical field.

¹National Science Foundation

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Date submitted: 11 Nov 2016

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