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First Contact: Adhesion Hysteresis in Soft Interfaces KYLE SCHULZE, ALEXANDER BENNETT, YONGLIANG NI, THOMAS ANGELINI, GREG SAWYER, Univ of Florida - Gainesville — Characterization and contact mechanics of soft materials continue to be of extreme importance to the world of medicine and health. Many studies in the recent past have thus been conducted on soft materials such as tissues and their proxies at the micro, meso, and macro scale to better understand the materials of life. Here we examine a soft tunable material that can be used as a proxy for soft biotribological interfaces that have adhesion considerations with PDMS. Specifically, we examine that by systematically changing the contact indentation experiment conditions the mechanical property predictions from traditional contact theories such as JKR can be readily manipulated. By in situ observation of real area of contact of PDMS indentation we examine rate, geometry, indentation, and modulus dependence on the contact hysteresis of the system.

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