

Tactile Sensing of Localized Slippage

In this part, we will show how the localized displacement phenomenon (LDP) and the proposed beam bundle model (BBM) can be applied in soft tactile sensing system to recognize the slippage. With beam bundle model, we can utilize to simulate and predict the output of transduced systems when a slippage occurs. Moreover, with the localized displacement phenomenon, ones can build their own sensing system based on this phenomenon. As a result, the BBM and the LDP could be exploited in analyzing sensor's output (Chapter 5), developing a novel sensor (Chapter 6), and enhancing performance of one off-the-shelf sensor with slip perception (Chapter 7). The content presented in this part strengthens the proposed theory mentioned in the previous part, helping the reader to imagine a complete loop from theory to application in the mechanics of sliding of soft objects.