

QUIZ on Lecture P1_Wk5_L2

1. A VEDA simulation of approach and retract curves using the JKR model to describe the contact mechanics should typically show

- a) an asymmetric approach and retract curve
- b) a symmetric approach and retract curve
- c) an approach curve with no jump to contact
- d) a retract curve with no tip snap-off from the substrate

2. A VEDA simulation of an approach curve using the DMT model to describe the contact mechanics should typically show a jump to contact event. In general, the location of the jump to contact event will NOT depend on

- a) the tip radius
- b) the length of the cantilever
- c) Young's modulus of the tip
- d) the thickness of the cantilever

3. The Hertz model might be selected to describe the interaction between a tip and a substrate when

- a) only the tip has a high modulus of elasticity
- b) only the substrate has a high modulus of elasticity
- c) both the tip and substrate have a high modulus of elasticity
- d) the cantilever has a large spring constant

4. Using VEDA, capillary effects between a tip and a substrate

- a) cannot be simulated
- b) can be simulated
- c) can be simulated, but only if the substrate is hard
- d) can be simulated, but only if the substrate is soft