**Virtual Work**

Rigid bar in horizontal plane

sA

sC

2

FA

FC

B

A

C

Newtonian 

Infinitesimal kinematically consistent displacements



A

FC

FA

C

Virtual work



Virtual power



Virtual power for ground connections is zero because the velocity is zero. Virtual power across internal joints is zero because the force of link i on link j dotted with the velocity of the joint will be equal and opposite to the force of link j on link i dotted with the velocity of the joint. However virtual power across internal springs or dampers must be included.



**Virtual Work for Slider Crank**





1

1

2

3

4

A

B





R = AB

L = BC

**P**

**T12**

C

 from Notes\_03\_01



 matches Notes\_06\_01 for 