

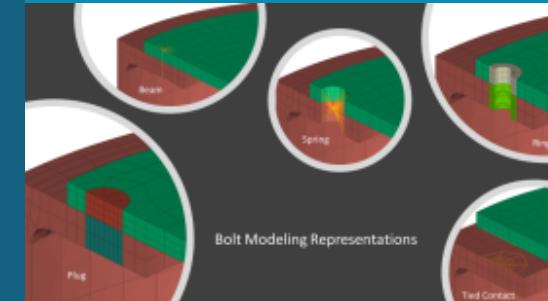


Sandia  
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SAND2020-14086C

# A Comparative Study of Joint Modeling Methods and Analysis of Fasteners

10098



IMAC-XXXIX

*Presented By*

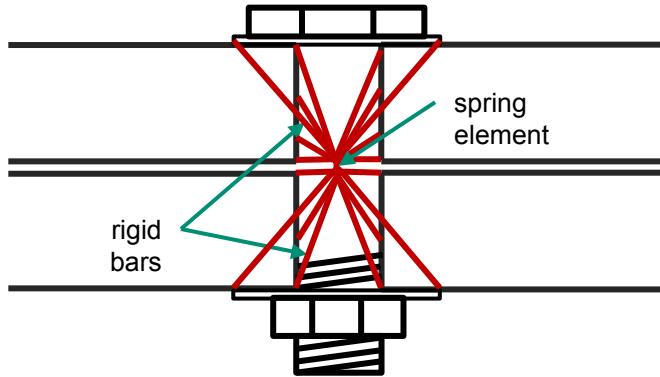
Ricardo Garcia, Michael Ross, Benjamin Pacini, Daniel  
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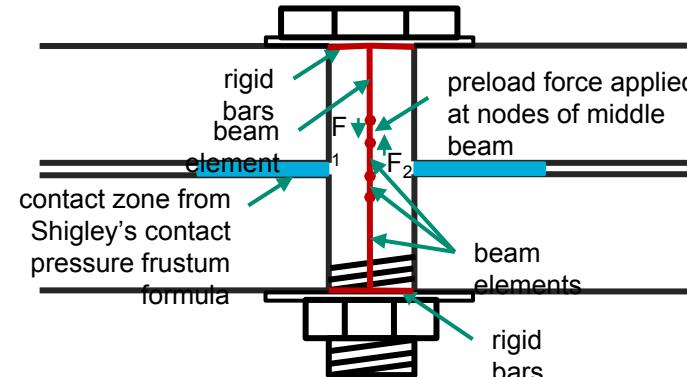


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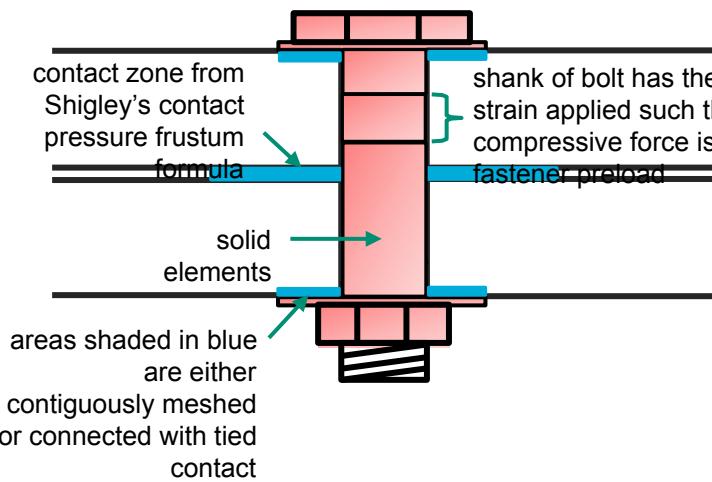
## Spring Method



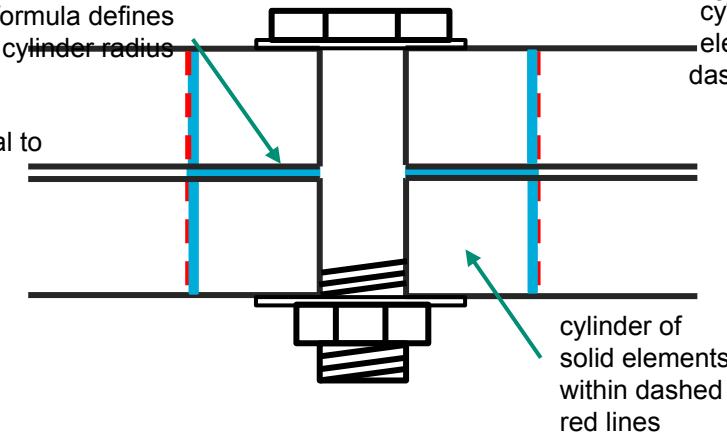
## Beam Method



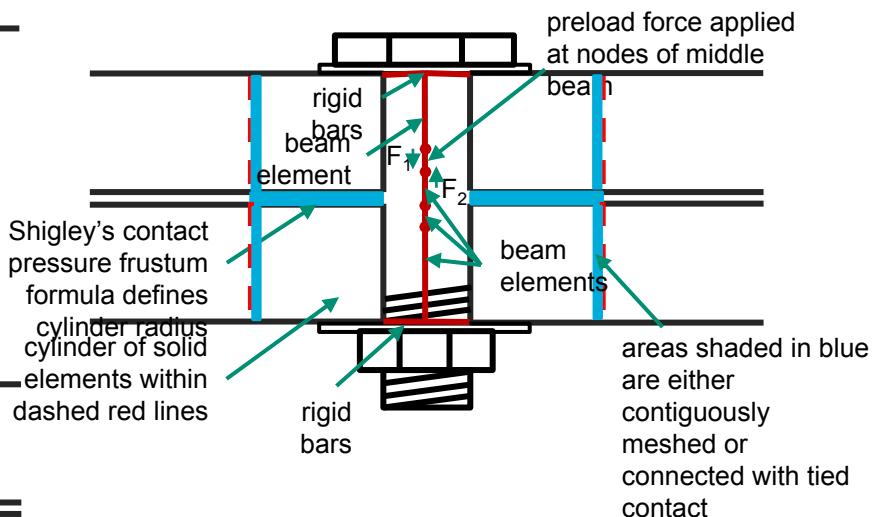
## Plug Method



## Ring Method



## Ring-Beam Method



# Cylinder-Plate-Beam Experiments



- free boundary condition modal
- burst random excitation

