

THE TRUSS GUYS: Kenfield Griffith, Saud Sharaf

We investigated a few cantilever truss systems which included single support and dual supports.

why particle spring system?

share the ideal truss assumptions >

pin connected

load and reaction applied at nodes only

axial force in tension or compression

centroidal axis intersects with adjacent at nodes

what did we do?

our research focus >

truss morphology with shifting supports

asymmetrical load distribution

truss morphology with varying point loads

3 dimensional construction

how does it help?

the benefits >

efficient use of materials

lighter structures

architectural value

cost reduction

methodology?

spring strengthening >

different forces in outlining members

member strengths adjusted to reduce deflection

form optimization >

equal forces in all outlining members

moving supports >

point loads >

conclusion?

good environment for trusses

tweaking the environment

use of calibration factors

effective tool for designer

direction of project ?

future work >

3-dimensional trusses

indeterminate structures

carving trusses