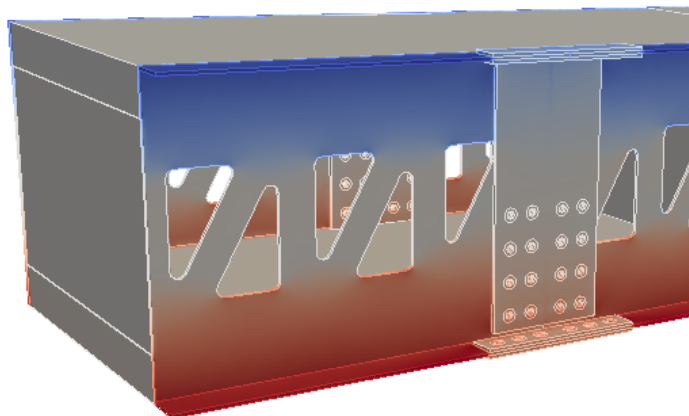
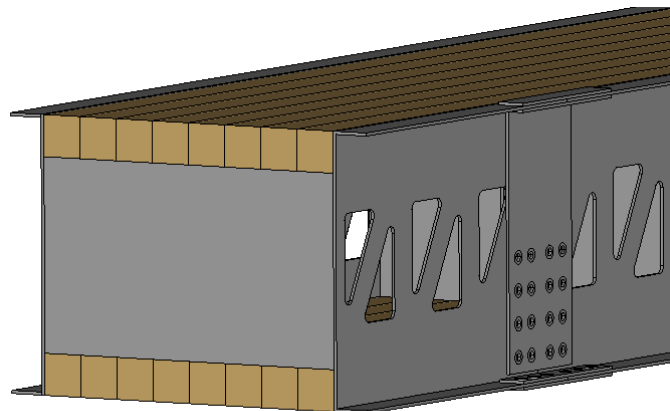
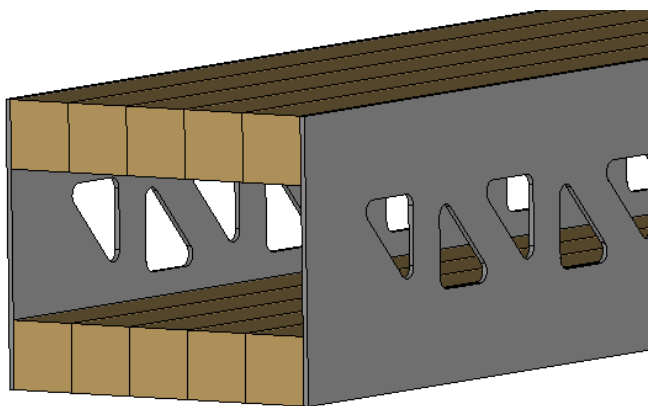


プレストレス木箱桁橋ボルト接合部の応力挙動

環境構造工学分野 7015816 酒井大希



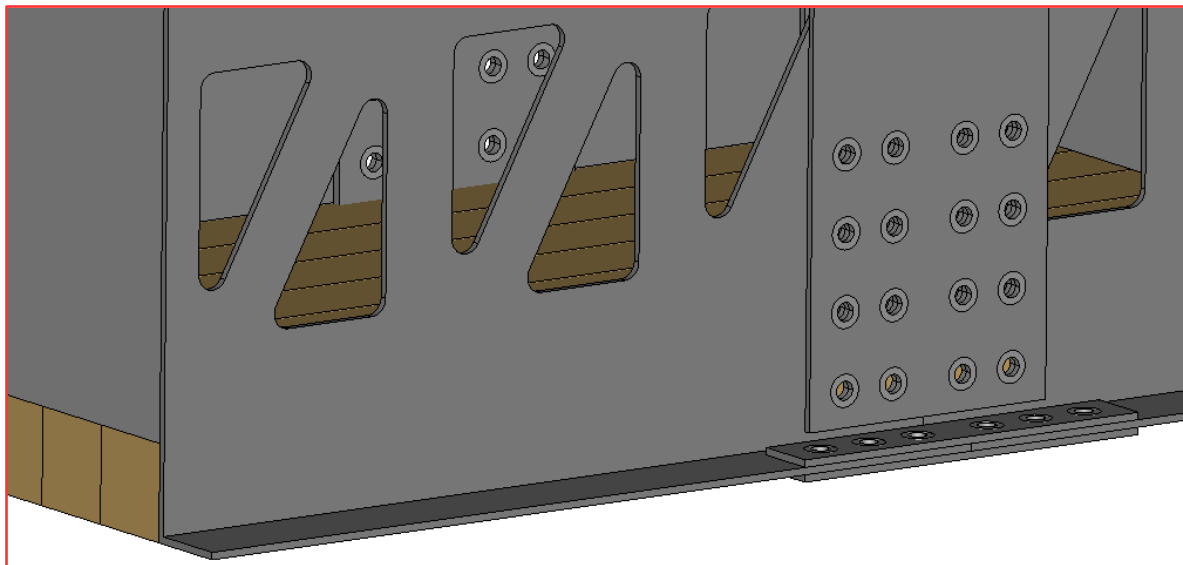
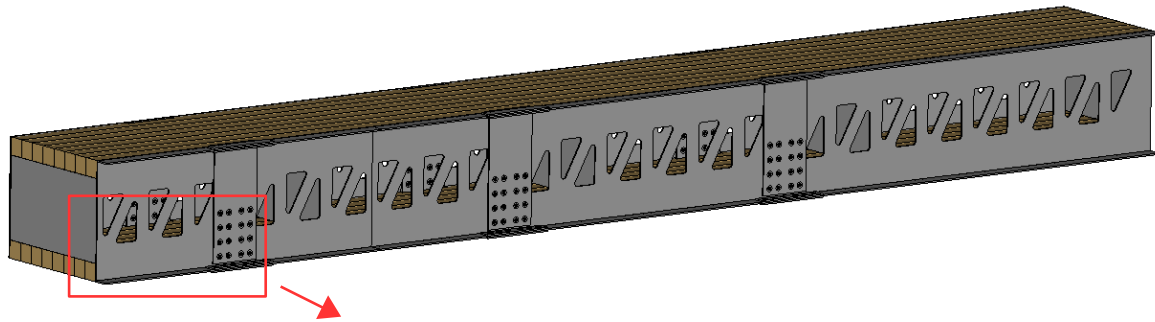
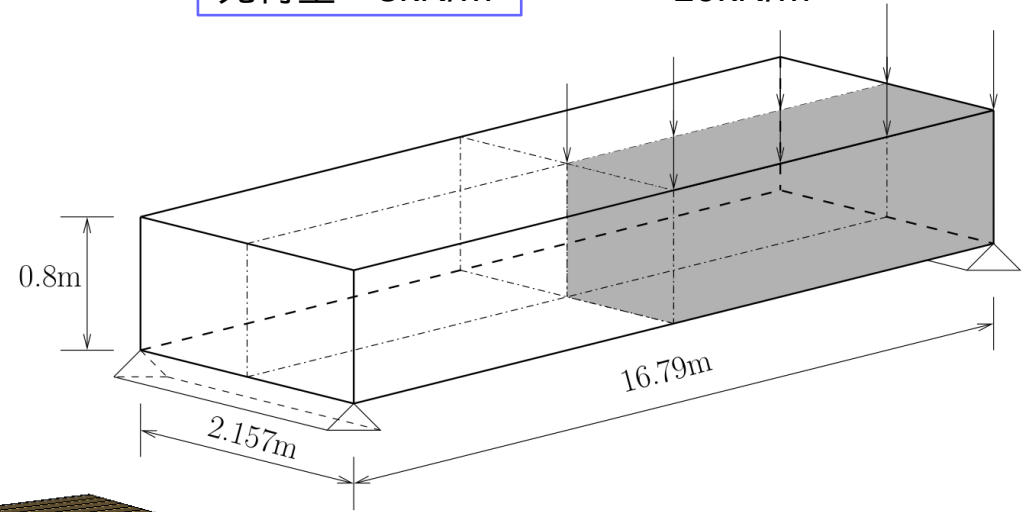
Salome-Meca 2017で解析

解析モデル

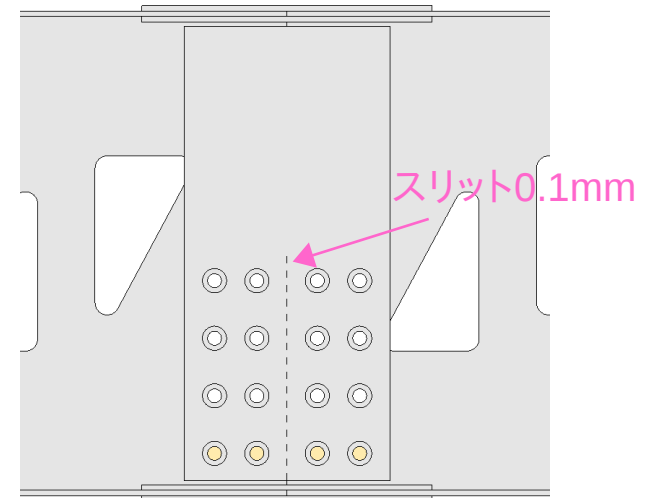


雪荷重 $\div 7\text{kN/m}^2$
死荷重 $\div 3\text{kN/m}^2$

積雪2m時荷重+死荷重
 $\div 10\text{kN/m}^2$



圧縮側



引張側

結果

許容引張応力

resu___SIGM_NOEU SIXX

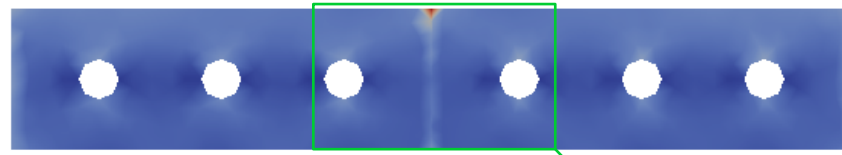
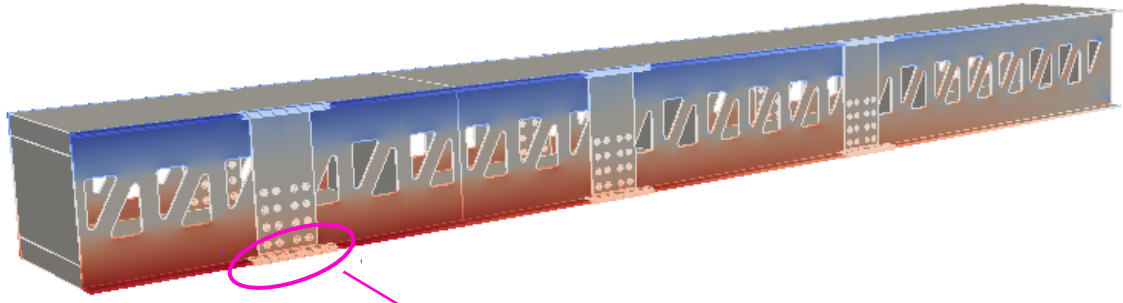
9.284e+07 \doteq 93MPa < 140MPa

4.7047e+7

0

-4.7047e+7

-9.535e+07 \doteq -95MPa



resu___SIGM_NOEU SIXX

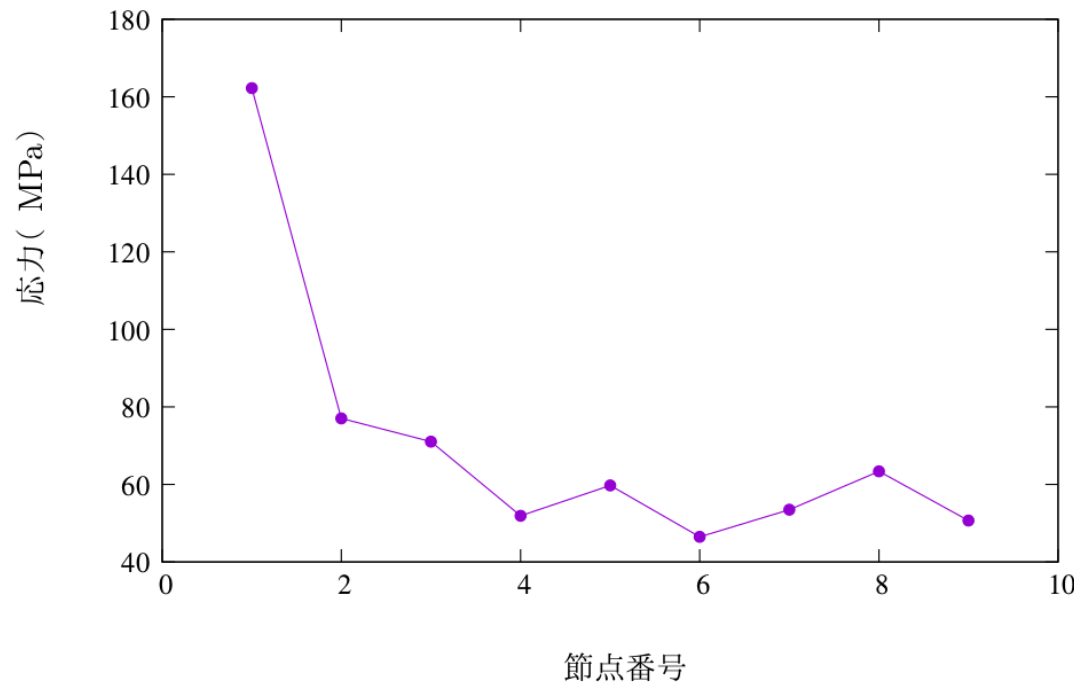
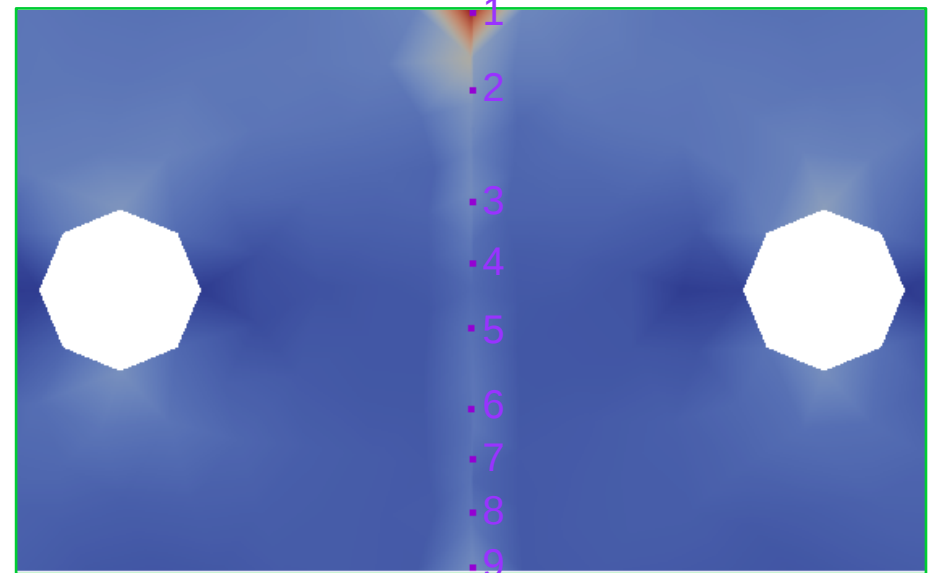
1.622e+08 \doteq 162MPa

1.1089e+8

7.3927e+7

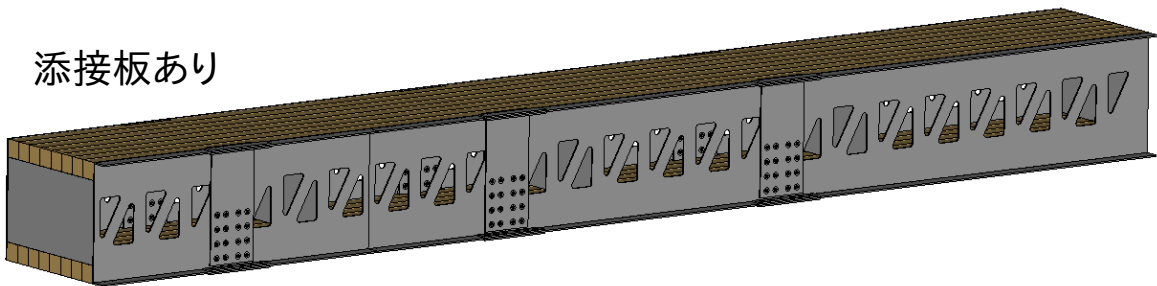
3.6964e+7

1.431e+07

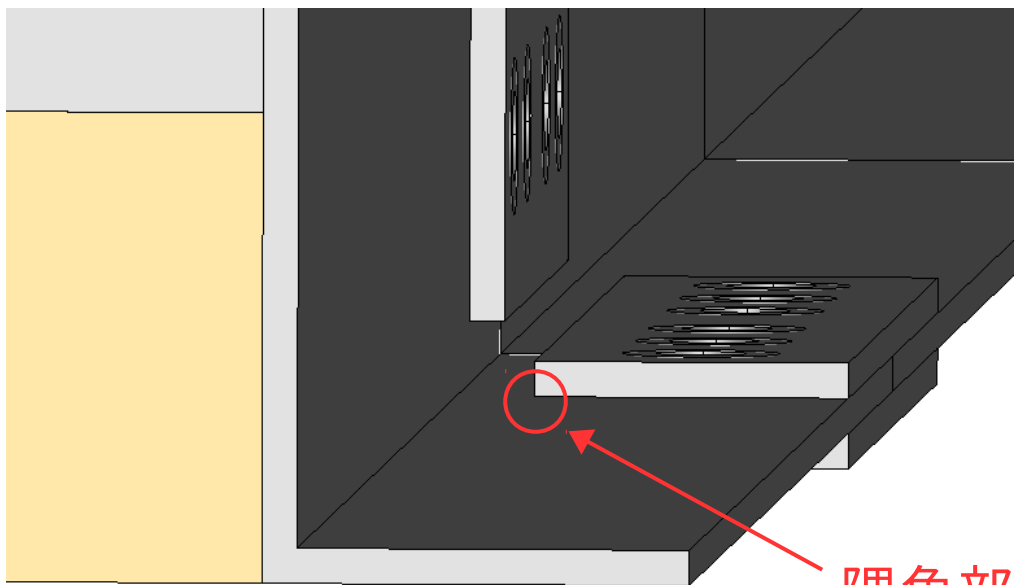
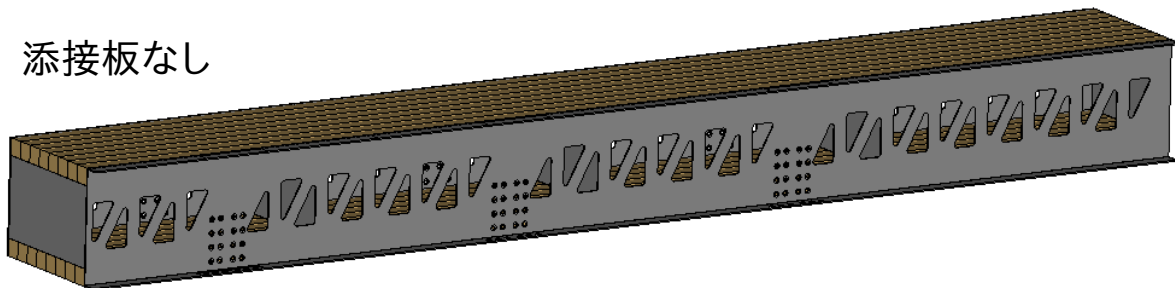


結果

添接板あり

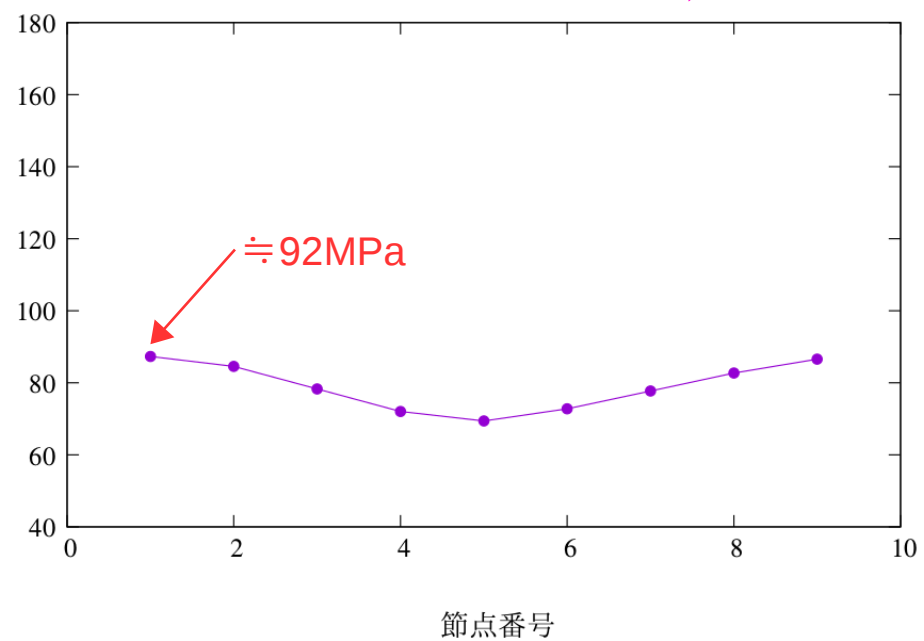


添接板なし

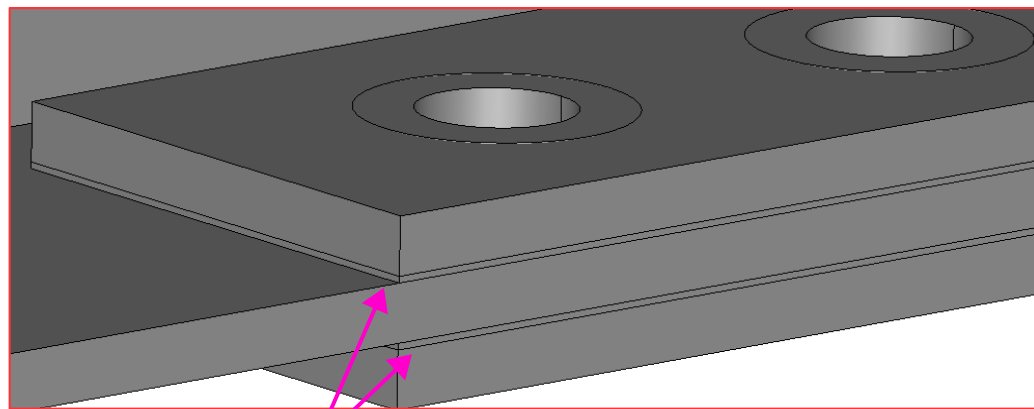
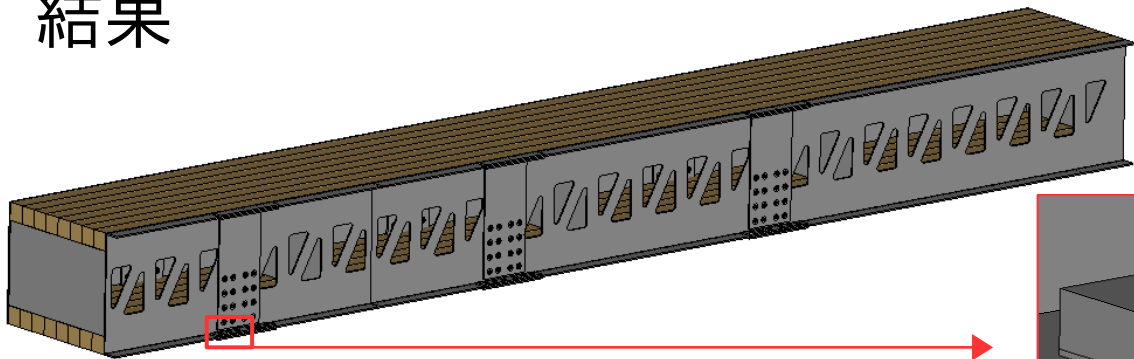


隅角部

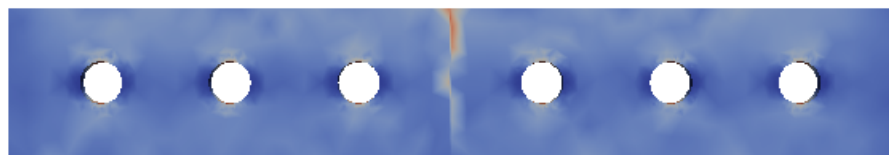
応力 (MPa)



結果



ゴムあり



resu____SIGM_NOEU SIXX

8.844e+07 \doteq 88MPa

6.7922e+7

4.5281e+7

2.2641e+7

-2.121e+06

厚さ1mmのゴム $E_{\text{ゴ}} = \frac{E_{\text{鋼}}}{10}$

ゴムなし



resu____SIGM_NOEU SIXX

1.622e+08 \doteq 162MPa

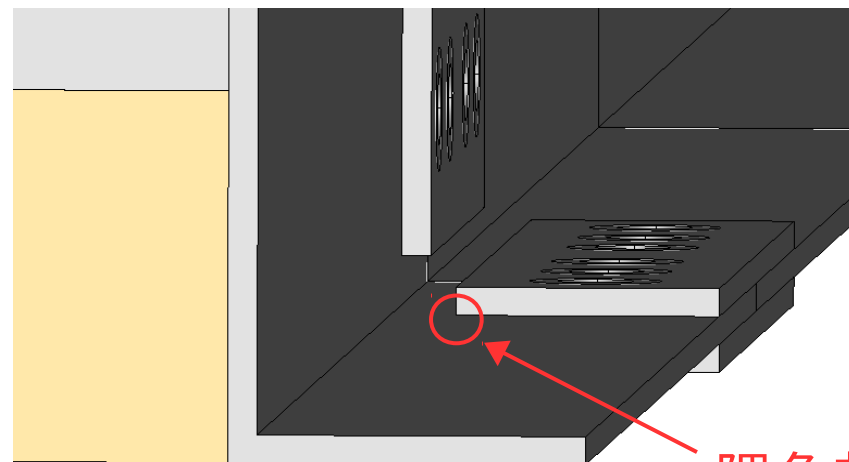
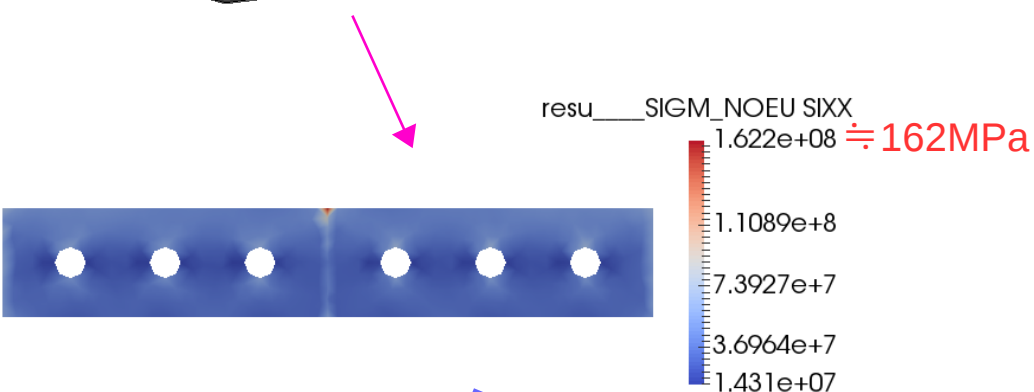
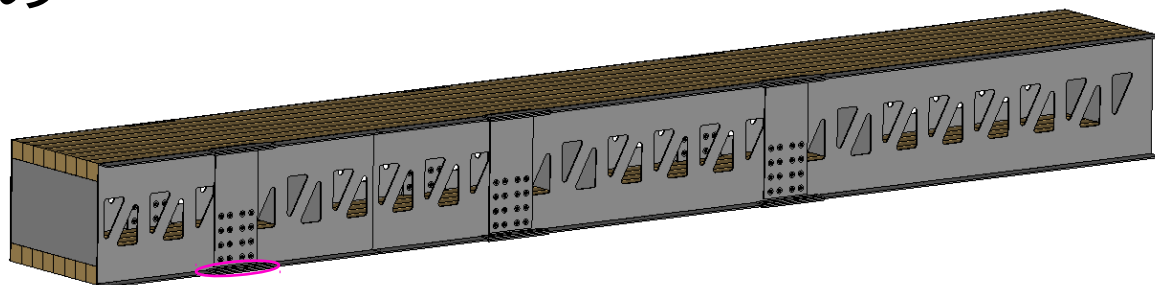
1.1089e+8

7.3927e+7

3.6964e+7

1.431e+07

まとめ



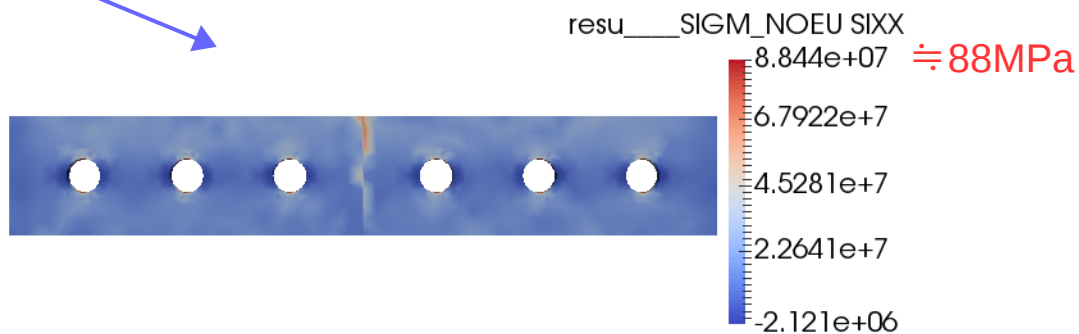
隅角部

添接板をはずす

ゴムを入れる



$\approx 92\text{MPa}$



今後は添接板と母材の間に摩擦を入れて接触解析