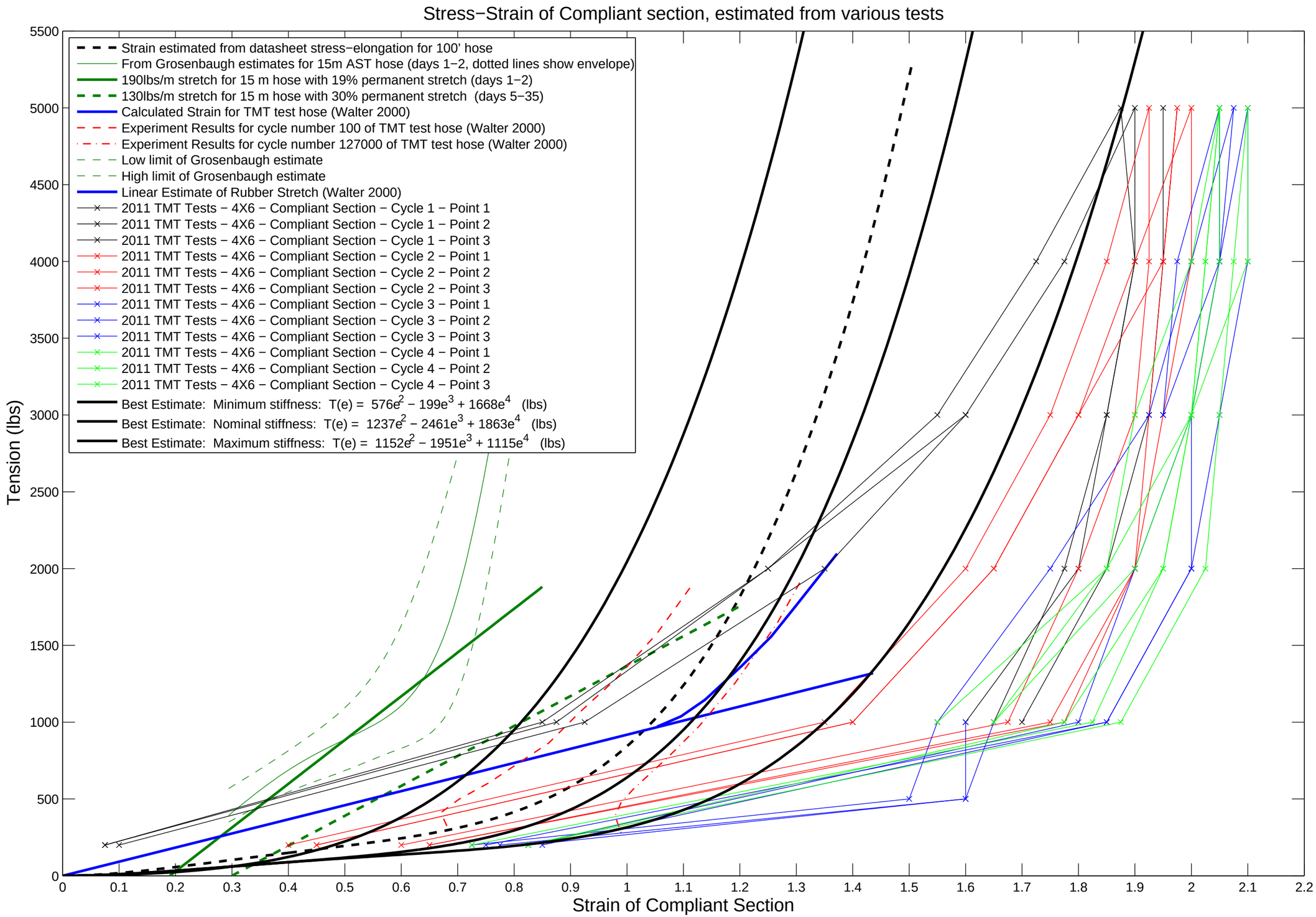
Stress−Strain of Compliant section, estimated from various tests
Strain estimated from datasheet stress−elongation for 100' hose
From Grosenbaugh estimates for 15m AST hose (days 1−2, dotted lines show envelope)
190lbs/m stretch for 15 m hose with 19% permanent stretch (days 1−2)
130lbs/m stretch for 15 m hose with 30% permanent stretch (days 5−35)
Calculated Strain for TMT test hose (Walter 2000)
Experiment Results for cycle number 100 of TMT test hose (Walter 2000)
Experiment Results for cycle number 127000 of TMT test hose (Walter 2000)
Low limit of Grosenbaugh estimate
High limit of Grosenbaugh estimate
Linear Estimate of Rubber Stretch (Walter 2000)
2011 TMT Tests − 4X6 − Compliant Section − Cycle 1 − Point 1
2011 TMT Tests − 4X6 − Compliant Section − Cycle 1 − Point 2
2011 TMT Tests − 4X6 − Compliant Section − Cycle 1 − Point 3
2011 TMT Tests − 4X6 − Compliant Section − Cycle 2 − Point 1
2011 TMT Tests − 4X6 − Compliant Section − Cycle 2 − Point 2
2011 TMT Tests − 4X6 − Compliant Section − Cycle 2 − Point 3
2011 TMT Tests − 4X6 − Compliant Section − Cycle 3 − Point 1
2011 TMT Tests − 4X6 − Compliant Section − Cycle 3 − Point 2
2011 TMT Tests − 4X6 − Compliant Section − Cycle 3 − Point 3
2011 TMT Tests − 4X6 − Compliant Section − Cycle 4 − Point 1
2011 TMT Tests − 4X6 − Compliant Section − Cycle 4 − Point 2
2011 TMT Tests − 4X6 − Compliant Section − Cycle 4 − Point 3
Best Estimate: Minimum stiffness: T(e) = 576e^2 − 199e^3 + 1668e^4 (lbs)
Best Estimate: Nominal stiffness: T(e) = 1237e^2 − 2461e^3 + 1863e^4 (lbs)
Best Estimate: Maximum stiffness: T(e) = 1152e^2 − 1951e^3 + 1115e^4 (lbs)
Tension (lbs)
Strain of Compliant Section
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
1.1
1.2
1.3
1.4
1.5
1.6
1.7
1.8
1.9
2
2.1
2.2