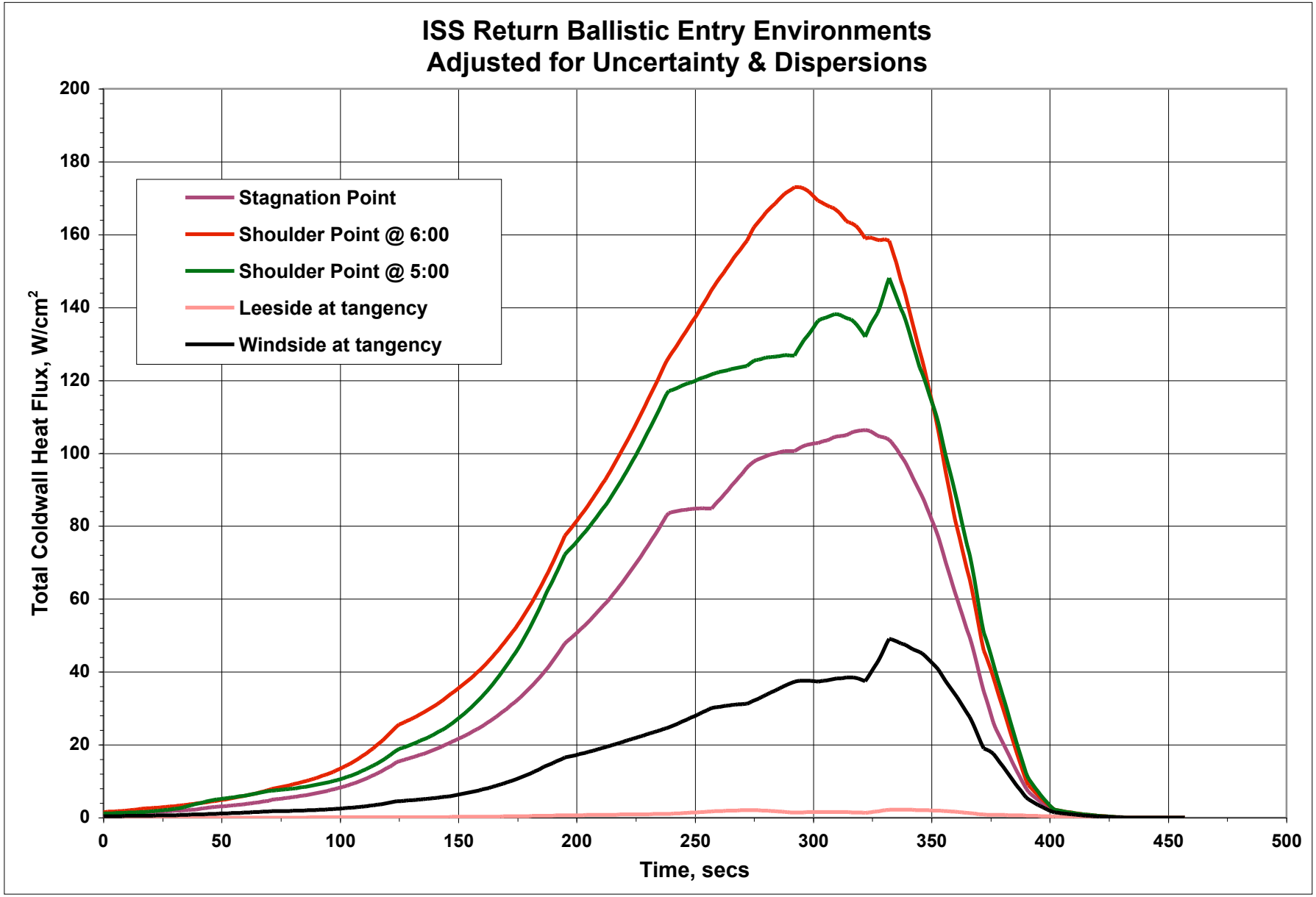
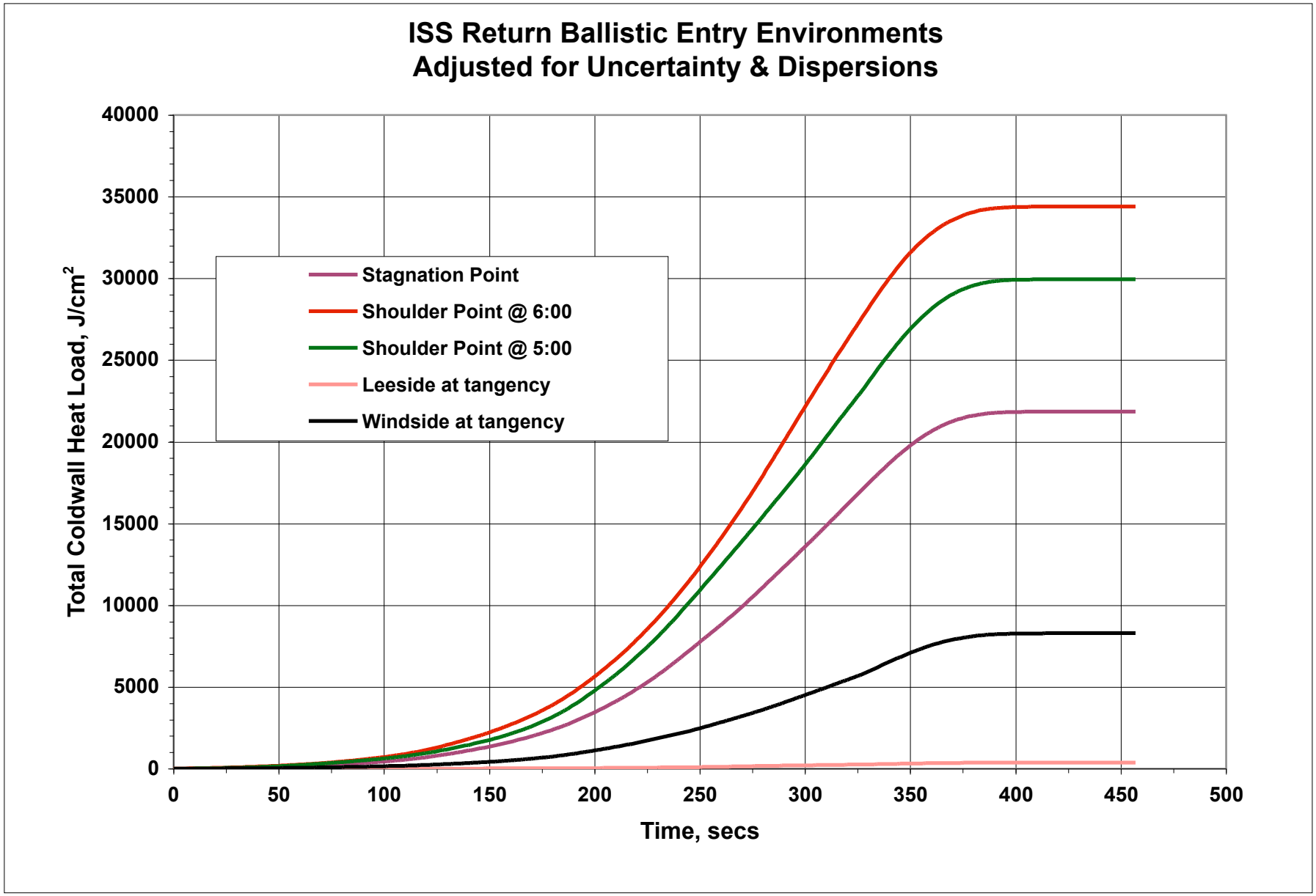
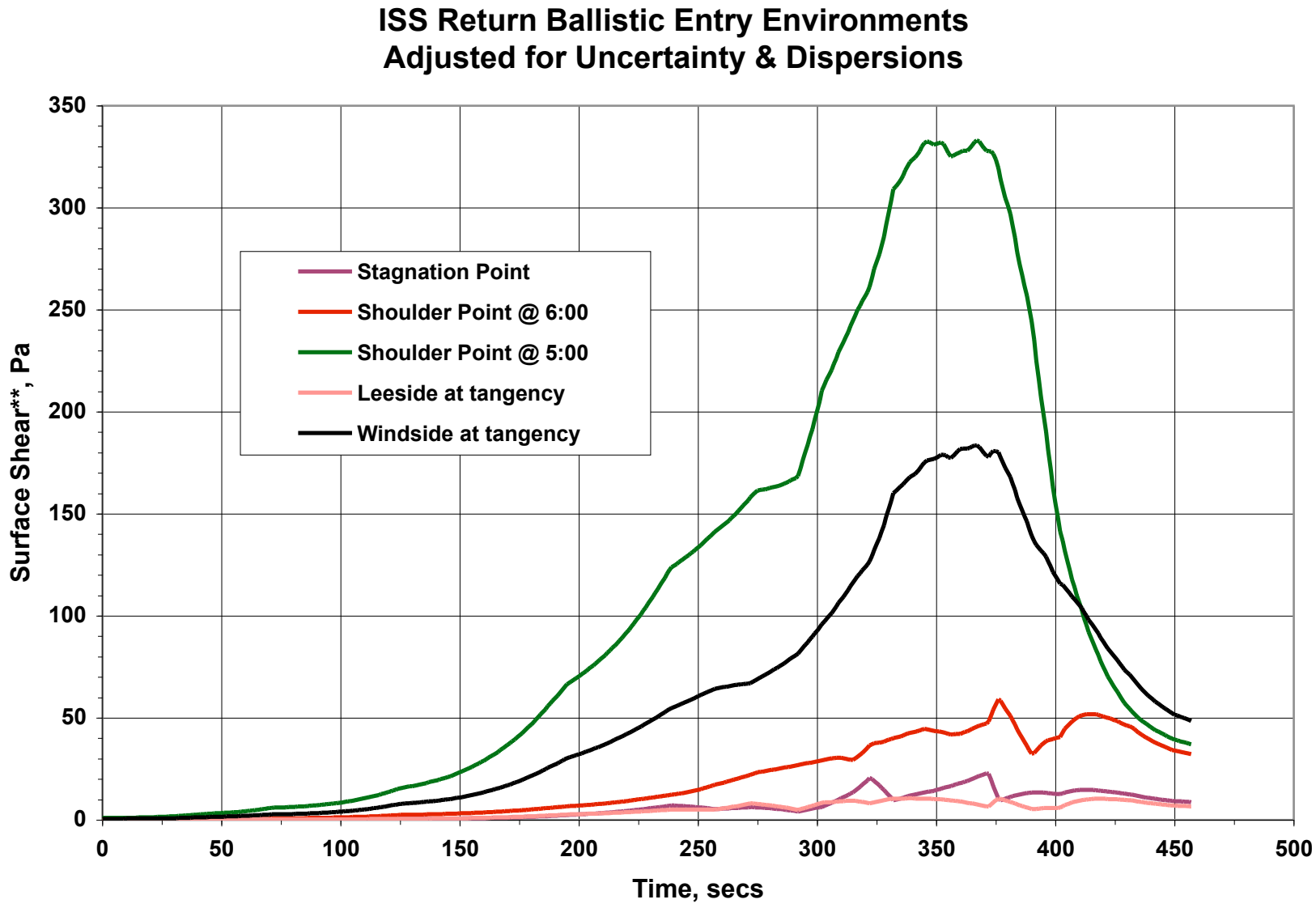
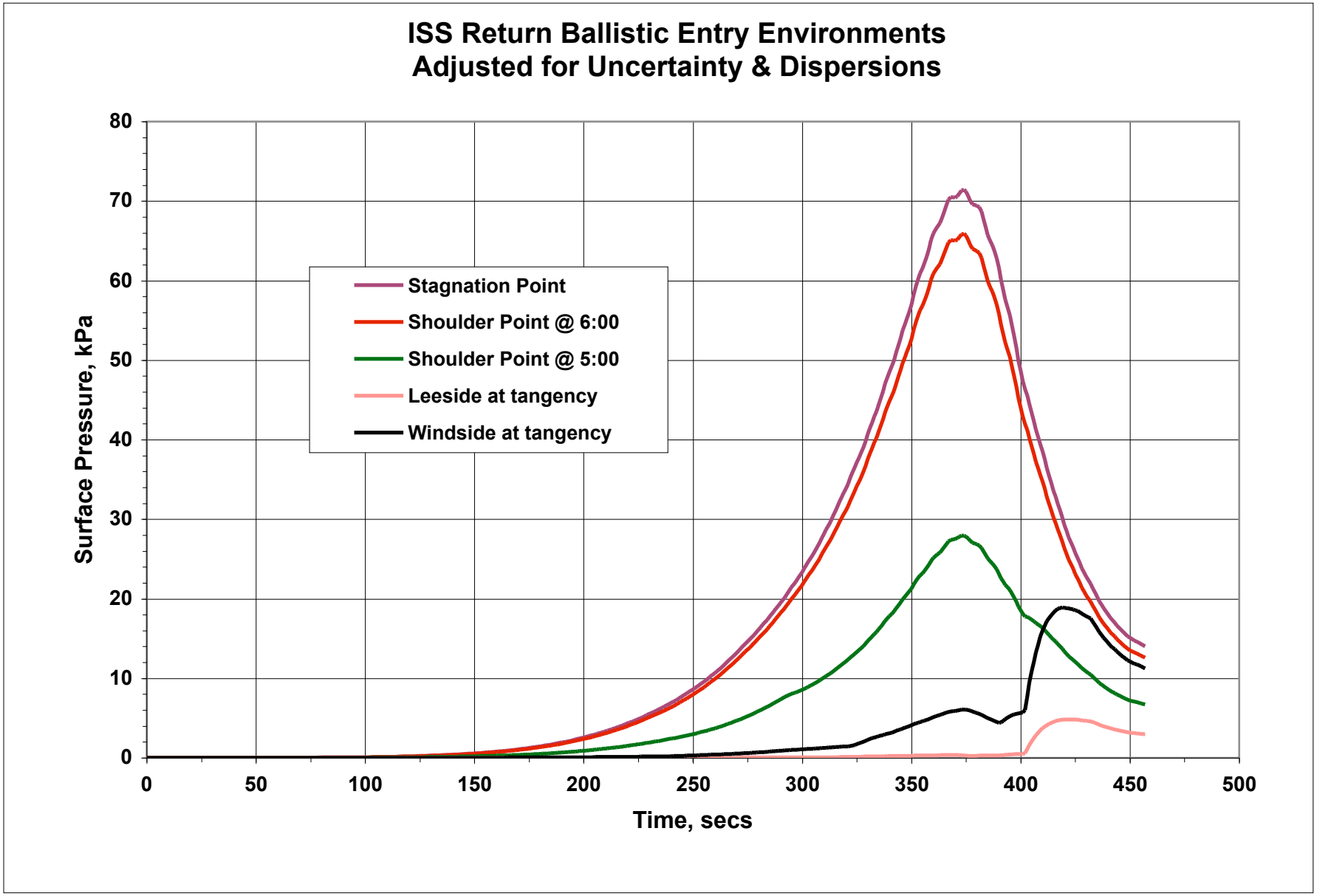
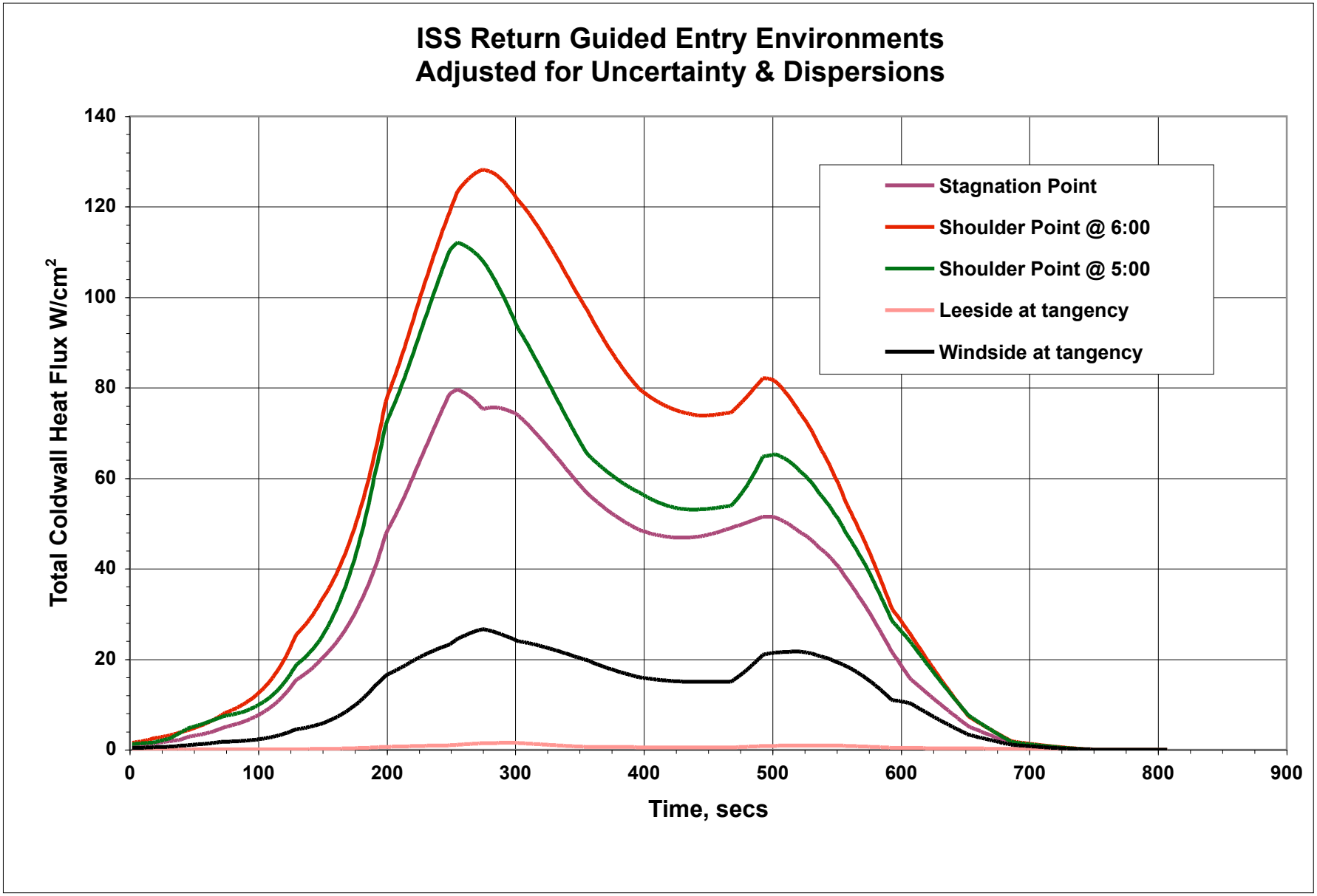

ISS Return Ballistic Entry Environments
Adjusted for Uncertainty & Dispersions
Stagnation Point
Shoulder Point @ 6:00
Shoulder Point @ 5:00
Leeside at tangency
Windside at tangency
Total Coldwall Heat Flux, W/cm2
Time, secs
0
20
40
60
80
100
120
140
160
180
200
0
50
100
150
200
250
300
350
400
450
500

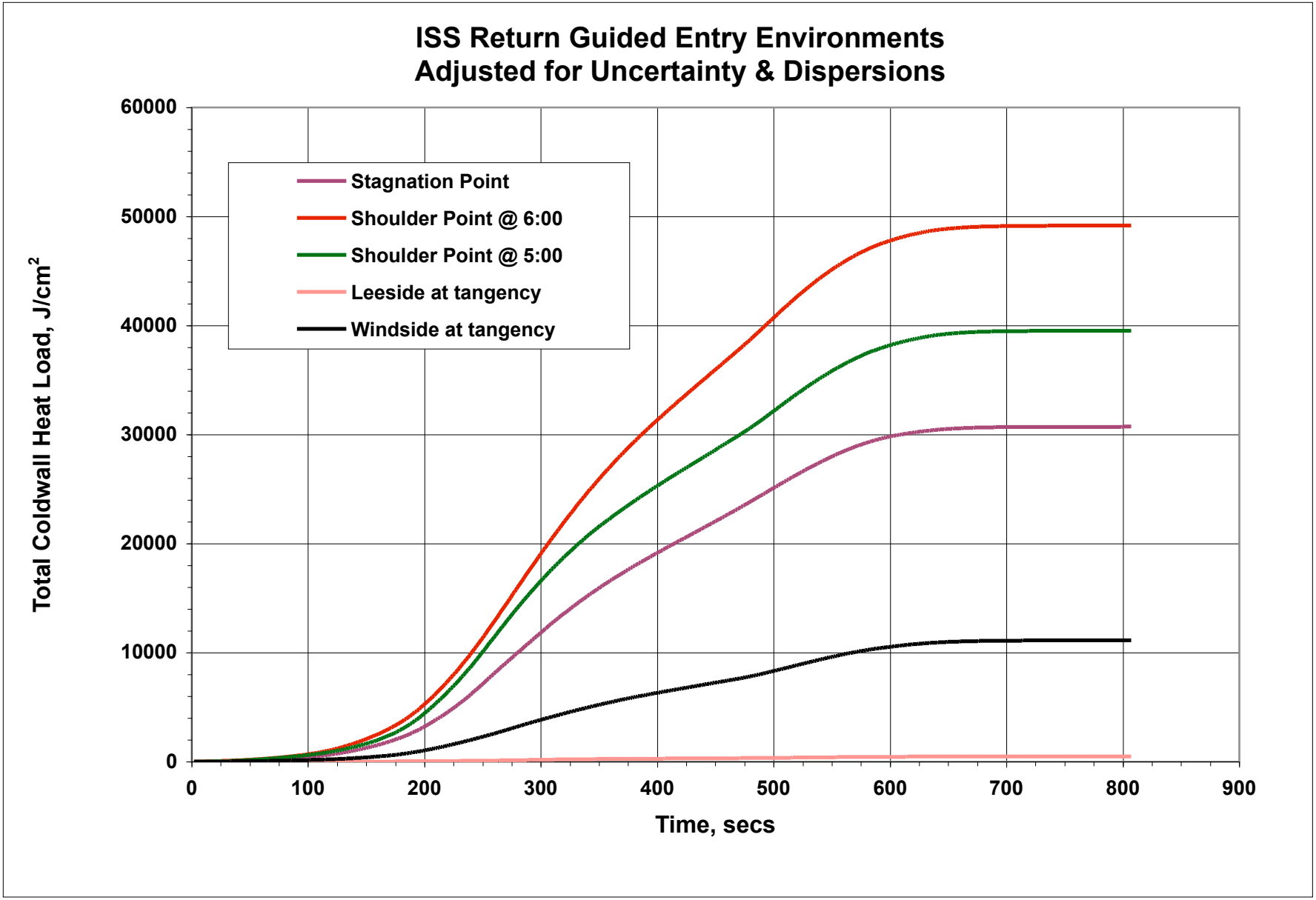

ISS Return Ballistic Entry Environments
Adjusted for Uncertainty & Dispersions
Total Coldwall Heat Load, J/cm2
Time, secs
Stagnation Point
Shoulder Point @ 6:00
Shoulder Point @ 5:00
Leeside at tangency
Windside at tangency
0
5000
10000
15000
20000
25000
30000
35000
40000
0
50
100
150
200
250
300
350
400
450
500

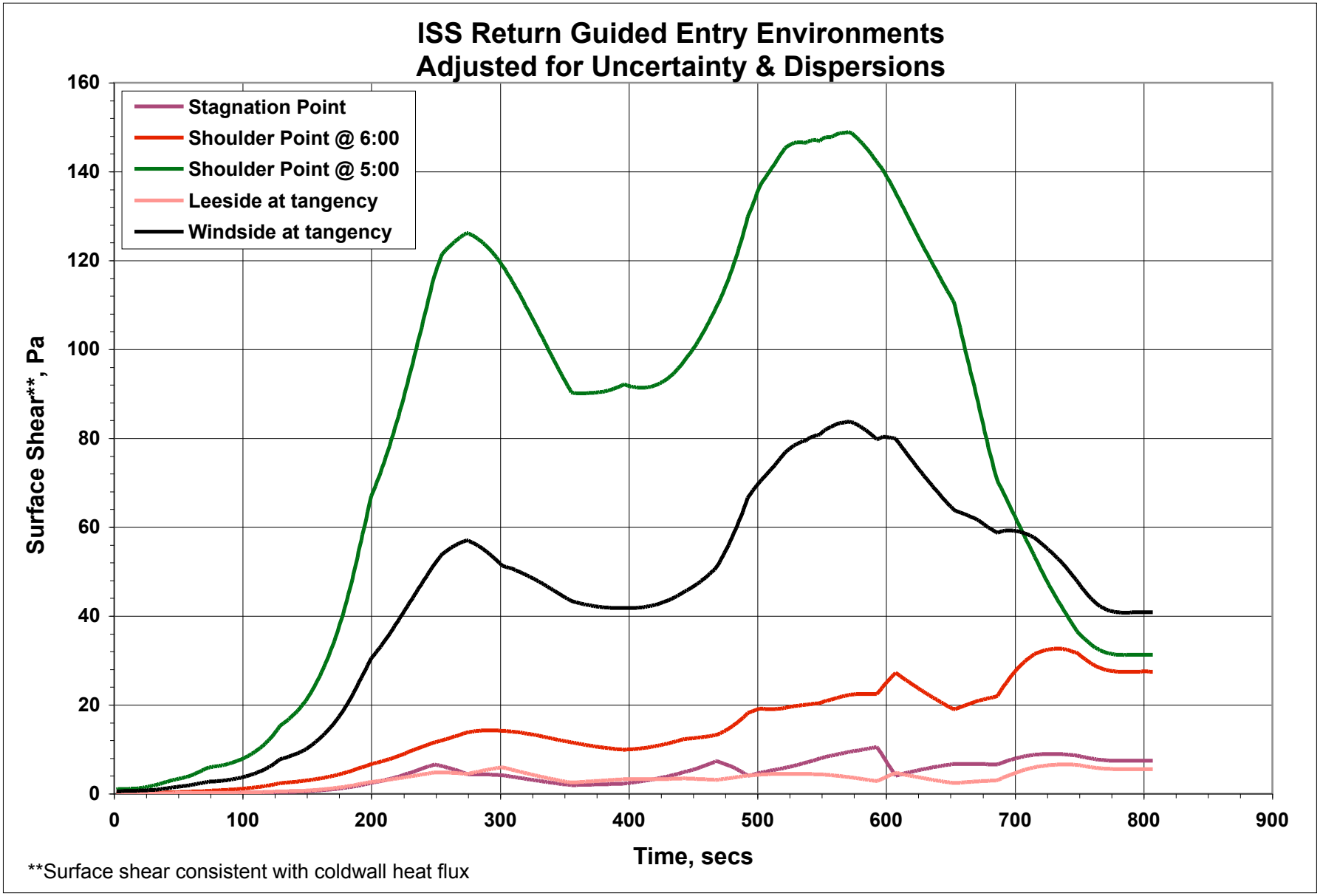


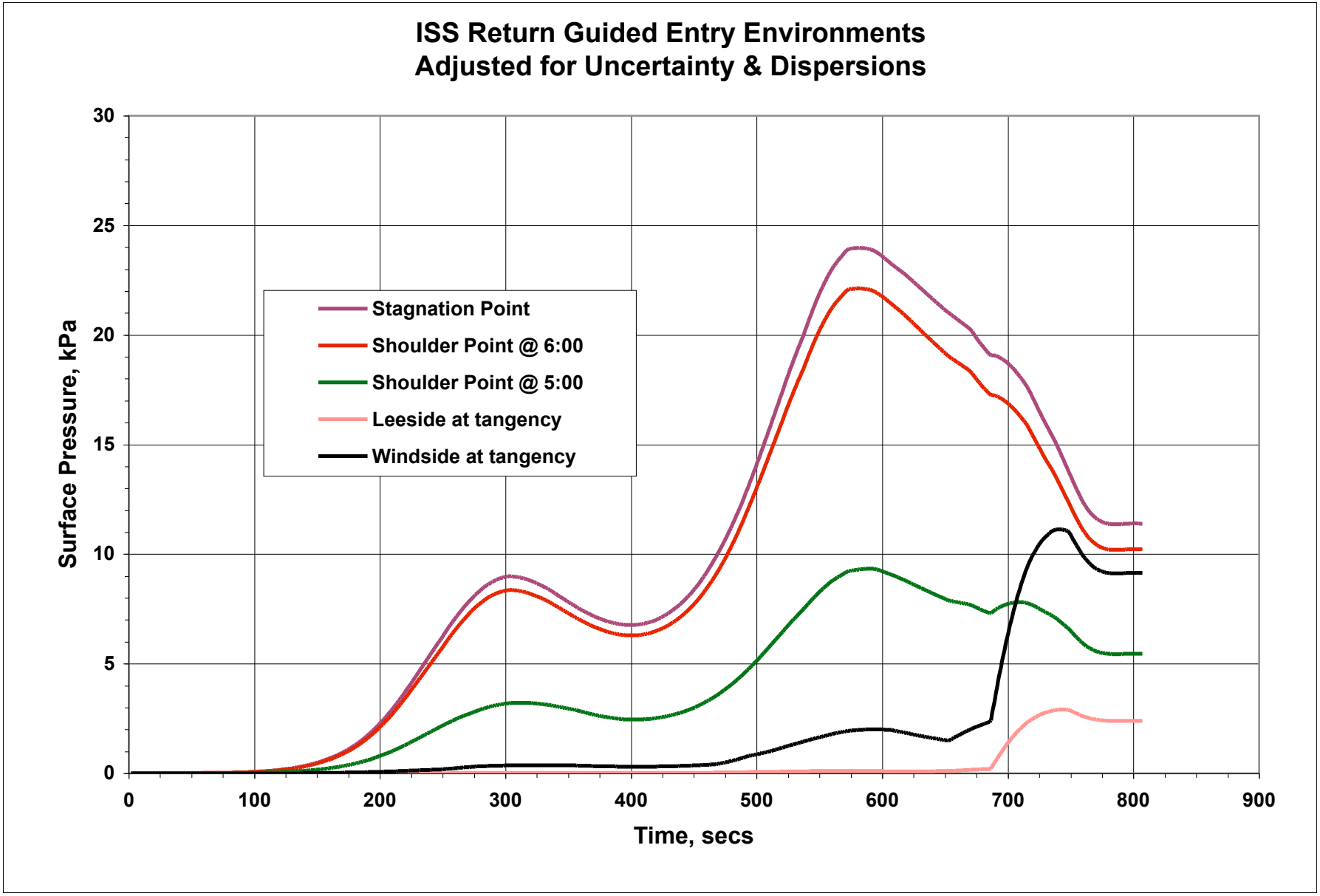
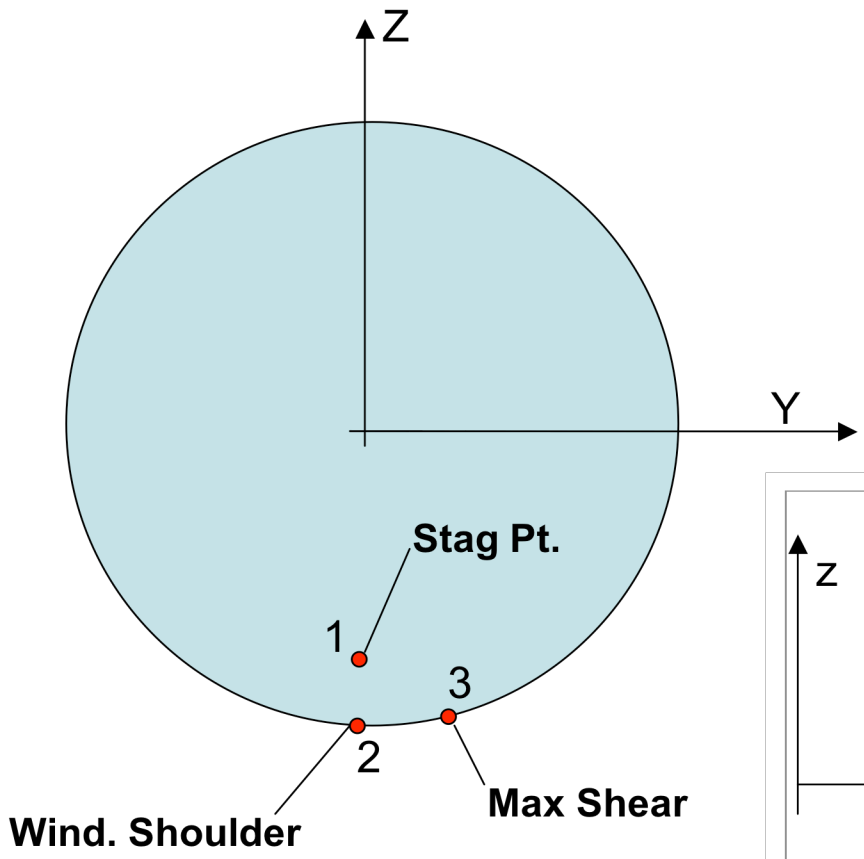
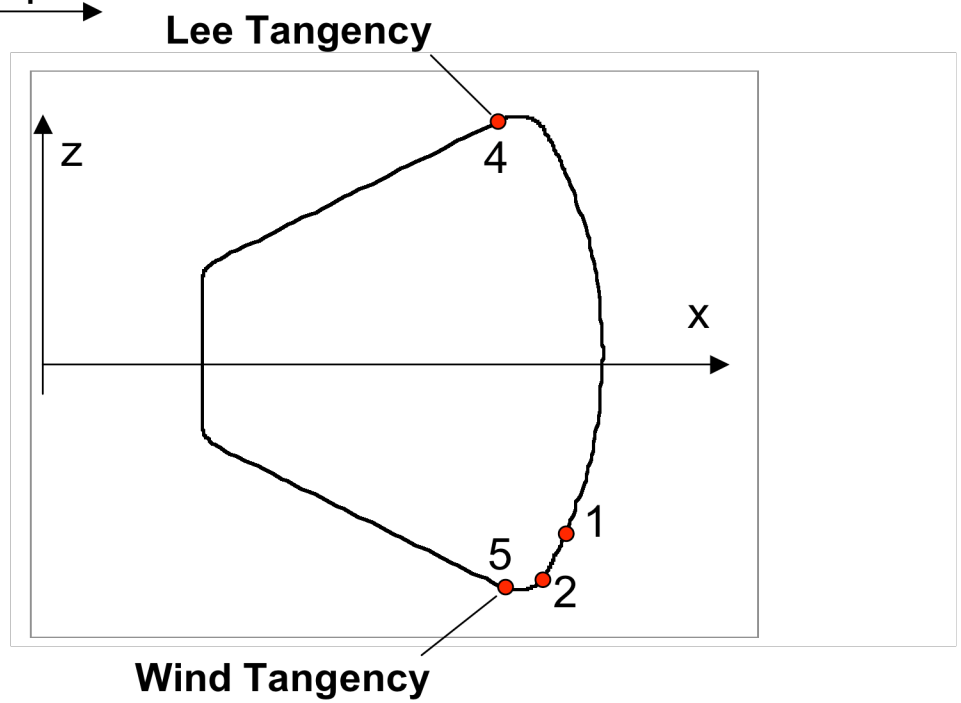
**Surface shear consistent with coldwall heat flux


ISS Return Ballistic Entry Environments
Adjusted for Uncertainty & Dispersions
Surface Pressure, kPa
Time, secs
0
10
20
30
40
50
60
70
80
0
50
100
150
200
250
300
350
400
450
500
Stagnation Point
Shoulder Point @ 6:00
Shoulder Point @ 5:00
Leeside at tangency
Windside at tangency


ISS Return Guided Entry Environments
Adjusted for Uncertainty & Dispersions
Total Coldwall Heat Flux W/cm2
Time, secs
0
20
40
60
80
100
120
140
0
100
200
300
400
500
600
700
800
900
Stagnation Point
Shoulder Point @ 6:00
Shoulder Point @ 5:00
Leeside at tangency
Windside at tangency


ISS Return Guided Entry Environments
Adjusted for Uncertainty & Dispersions
Stagnation Point
Shoulder Point @ 6:00
Shoulder Point @ 5:00
Leeside at tangency
Windside at tangency
Total Coldwall Heat Load, J/cm2
Time, secs
0
10000
20000
30000
40000
50000
60000
0
100
200
300
400
500
600
700
800
900


ISS Return Guided Entry Environments
Adjusted for Uncertainty & Dispersions
Stagnation Point
Shoulder Point @ 6:00
Shoulder Point @ 5:00
Leeside at tangency
Windside at tangency
Surface Shear**, Pa
Time, secs
0
20
40
60
80
100
120
140
160
0
100
200
300
400
500
600
700
800
900
**Surface shear consistent with coldwall heat flux


ISS Return Guided Entry Environments
Adjusted for Uncertainty & Dispersions
Surface Pressure, kPa
Time, secs
0
5
10
15
20
25
30
0
100
200
300
400
500
600
700
800
900
Stagnation Point
Shoulder Point @ 6:00
Shoulder Point @ 5:00
Leeside at tangency
Windside at tangency

Body Point Locations