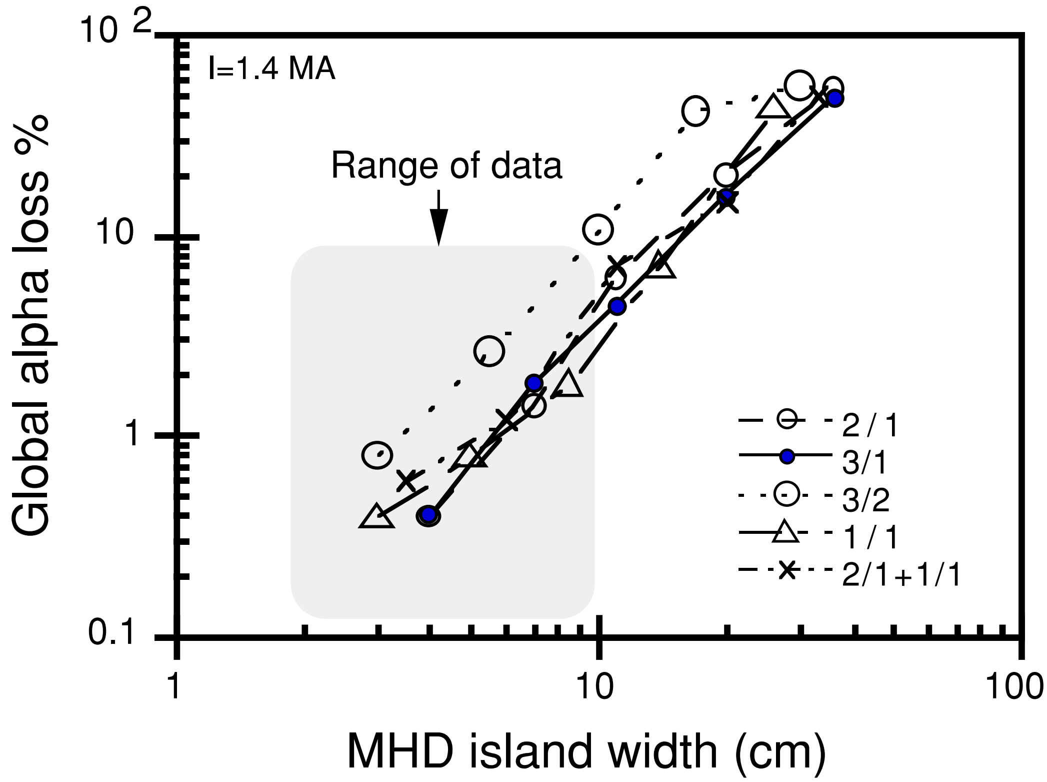
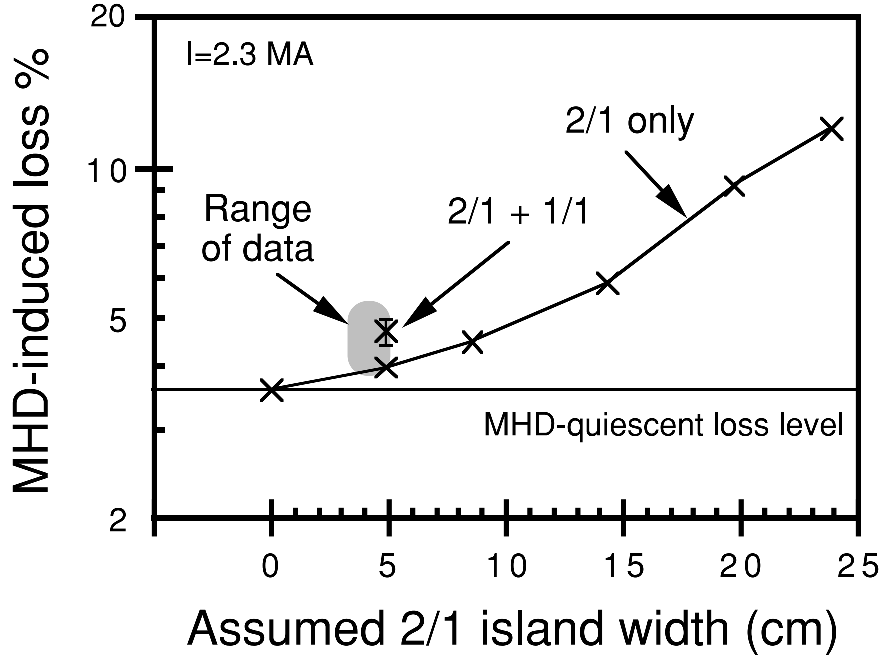


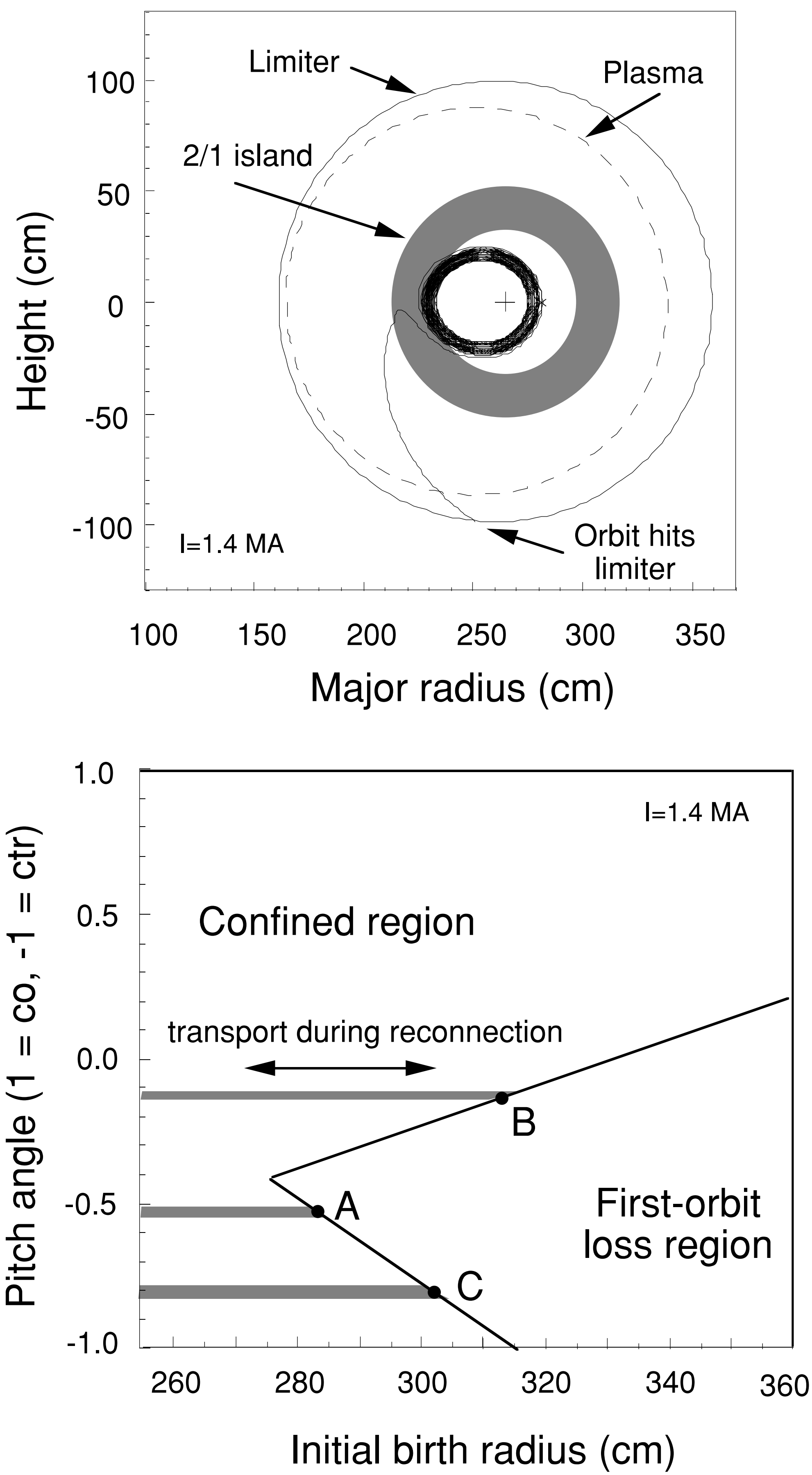
I=1.4 MA
Range of data
Global alpha loss %
MHD island width (cm)
10 2
10
1
0.1
1
10
100
2 / 1
3/1
3/2
1 / 1
2/1+1/1

Fig. 26



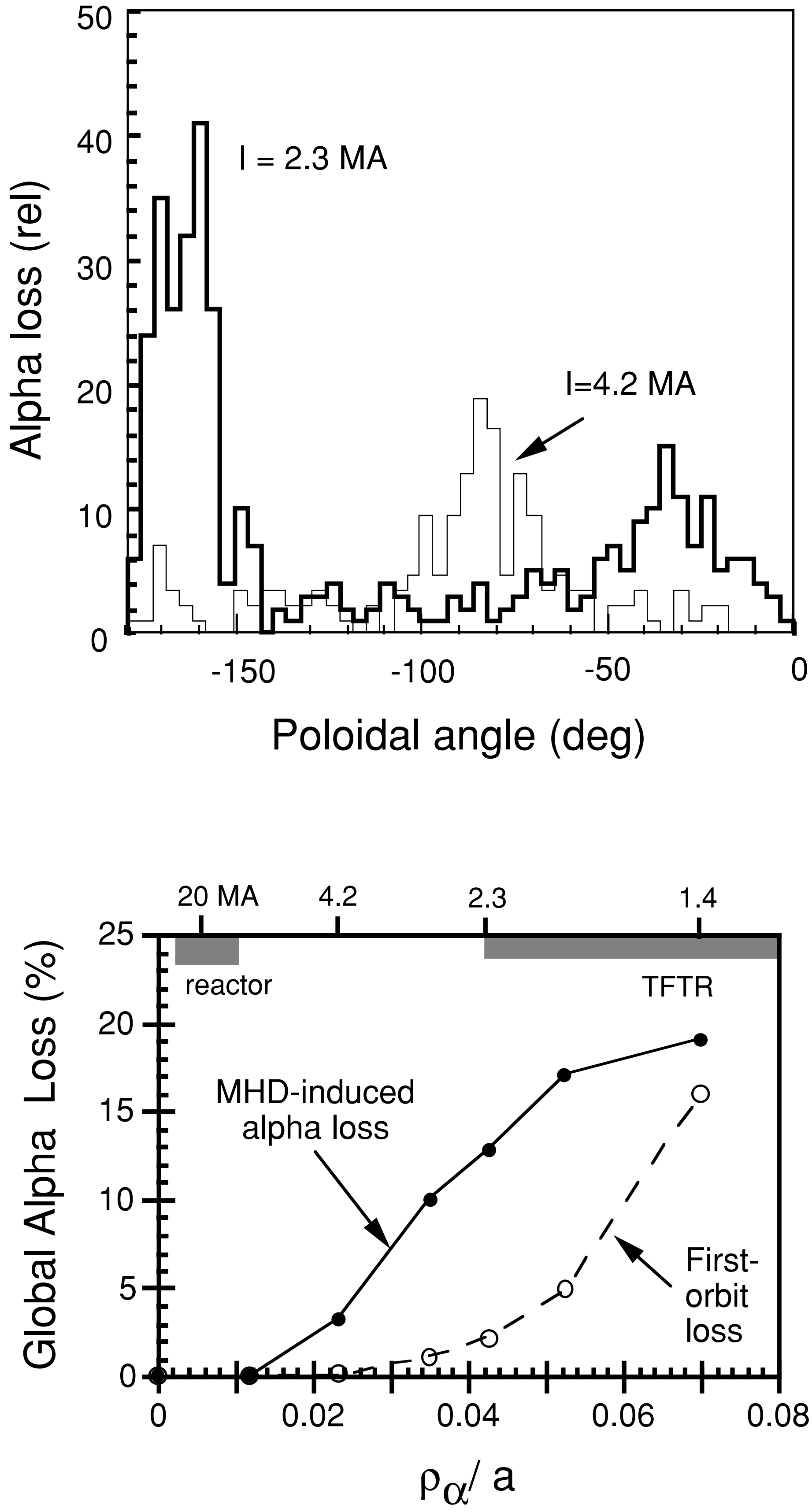
20
I=2.3 MA
2/1 only
10
Range
of data
2/1 + 1/1
5
MHD-quiescent loss level
2
0
5
10
15
20
25
MHD-induced loss %
Assumed 2/1 island width (cm)

Fig. 27



Limiter
Plasma
2/1 island
Orbit hits limiter
I=1.4 MA
Height (cm)
Major radius (cm)
100
50
0
-50
-100
100
150
200
250
300
350
I=1.4 MA
Confined region
transport during reconnection
B
A
C
First-orbit loss region
Pitch angle (1 = co, -1 = ctr)
Initial birth radius (cm)
1.0
0.5
0.0
-0.5
-1.0
260
280
300
320
340
360

Fig. 28



Alpha loss (rel)
I = 2.3 MA
I=4.2 MA
Poloidal angle (deg)
20 MA
4.2
2.3
1.4
reactor
TFTR
Global Alpha Loss (%)
MHD-induced alpha loss
First-orbit loss
ρ_α / a

Fig. 29

[redacted]

[redacted]

[redacted]

[redacted]