

Trim coil effectiveness
in suppressing islands
and
Berr and Xerr targeting
effectiveness in suppressing islands

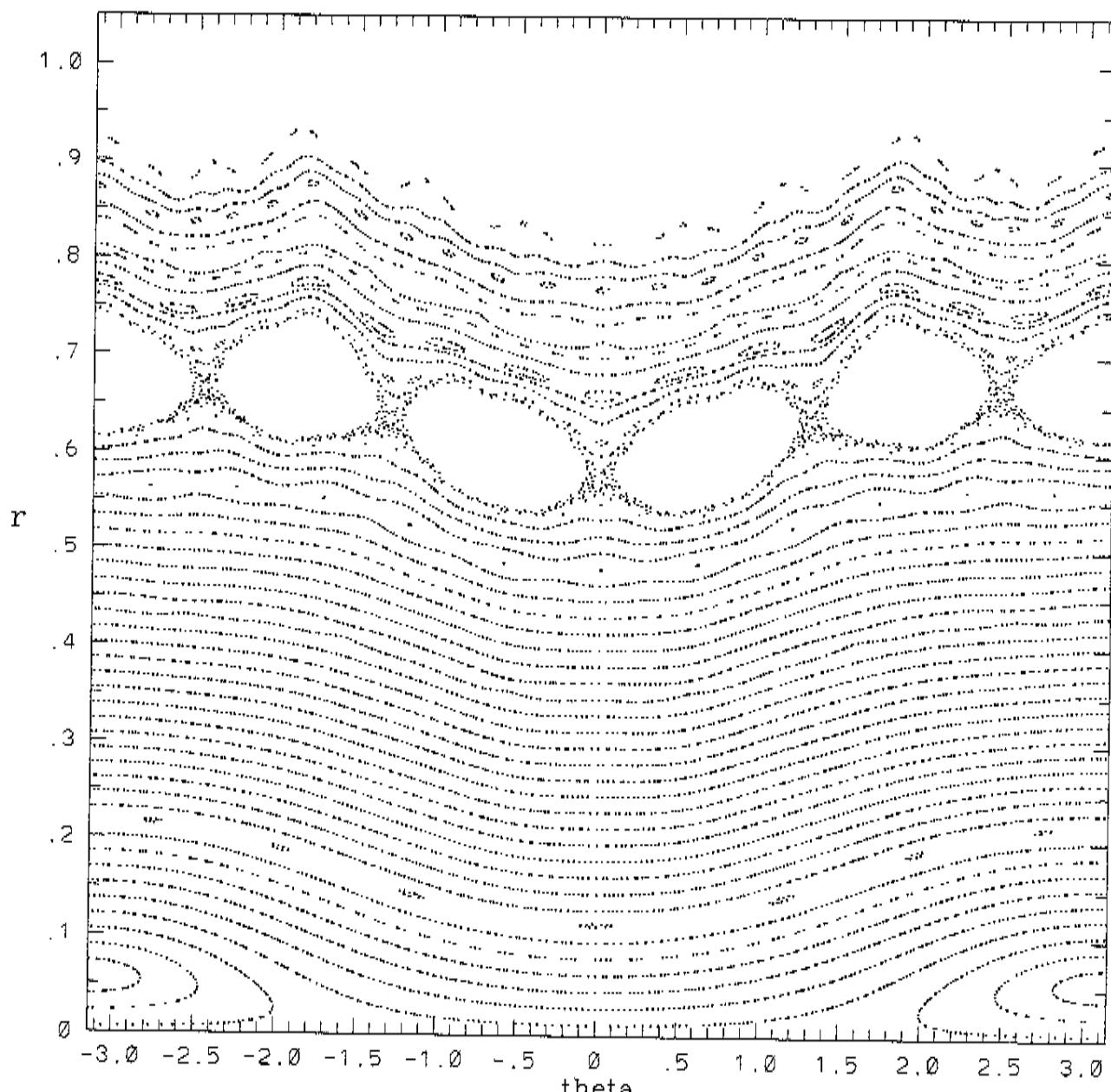
Don Monticello, Art Brooks,
and Allan Reiman

Outline

- All results are at full beta and full current for li383
- Trim coil effectiveness in suppressing islands
 - Modular coils - MOD2, 8 coils/period
09_07_00
 - * 501th iteration with blending
 - * 502th iteration with no blending
 - Modular coils and trim coils - MOD2T,
MOD2 plus 4.78ka m=5 trim coils
 - * MOD2 coils - 1 iteration no blending
 - * MOD2T coils - 1 iteration no blending
 - * MOD2T coils - 601th iteration with blending
 - * MOD2T coils - 602th iteration with no blending

- Berr and Xerr targeting effectiveness in suppressing islands
 - Saddle coils - SAD6 - current sheet solution, Berr-targeted
 - * SAD6 - 289th iteration with blending
 - Saddle coils - SAD7 - current sheet solution, Xerr-targeted
 - * SAD7 - 300th iteration with blending
- Conclusions

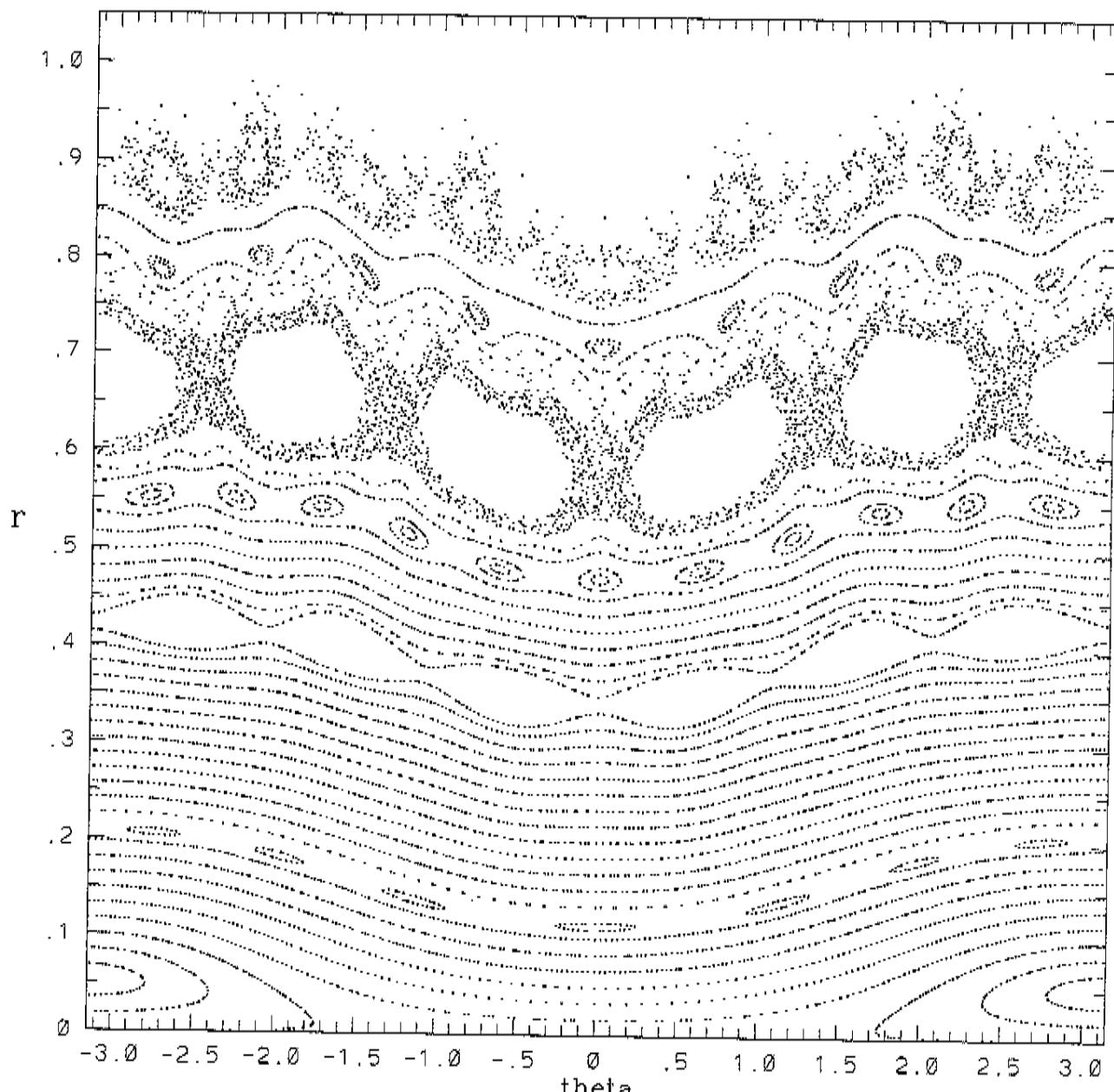
MOD 2



it=501 rpoinc: background coordinates
P383md13

Plot 1

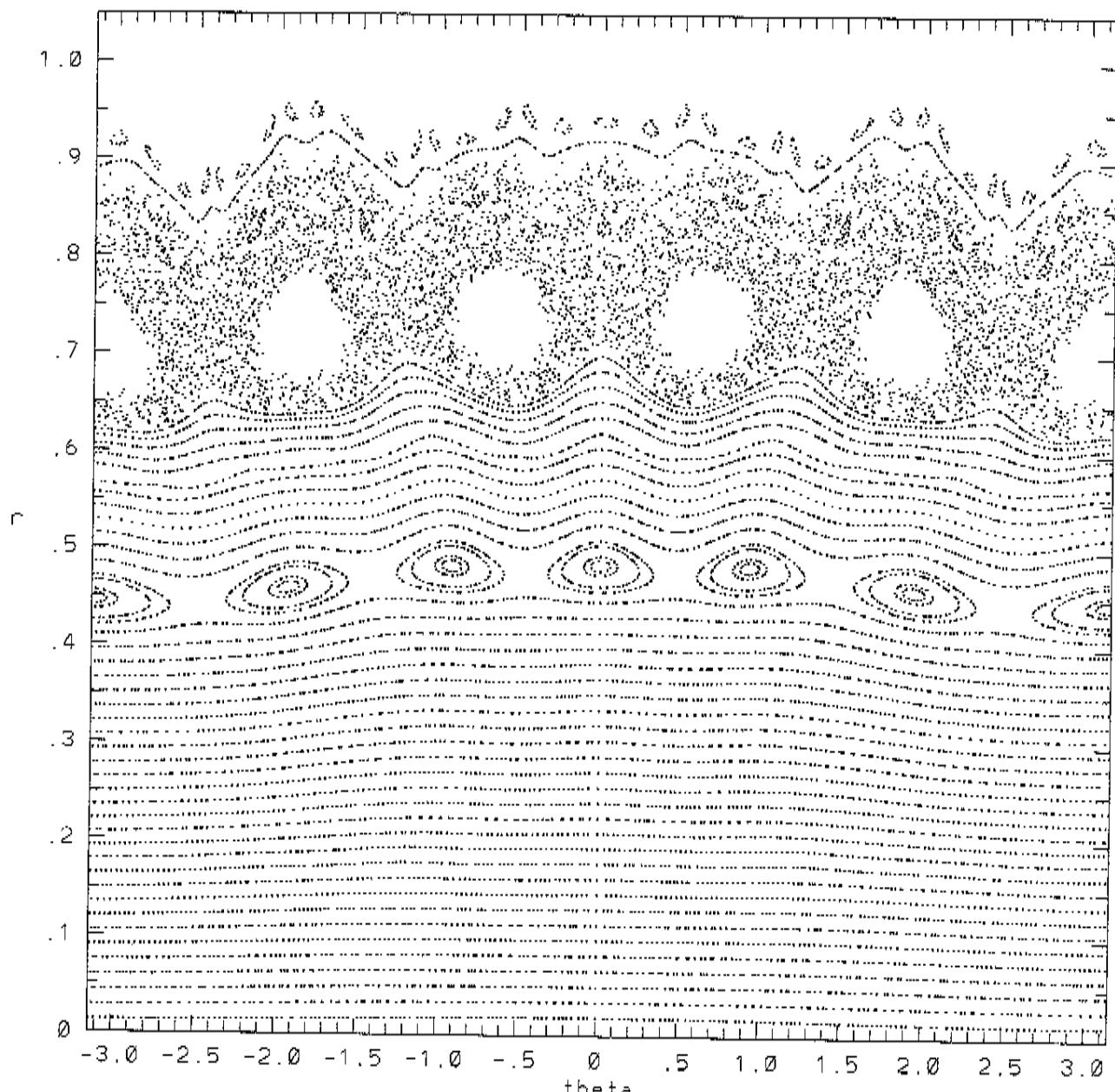
MOD 2 NO BLENDING



it=502 rpoinc: background coordinates
P383md13

Plot 6

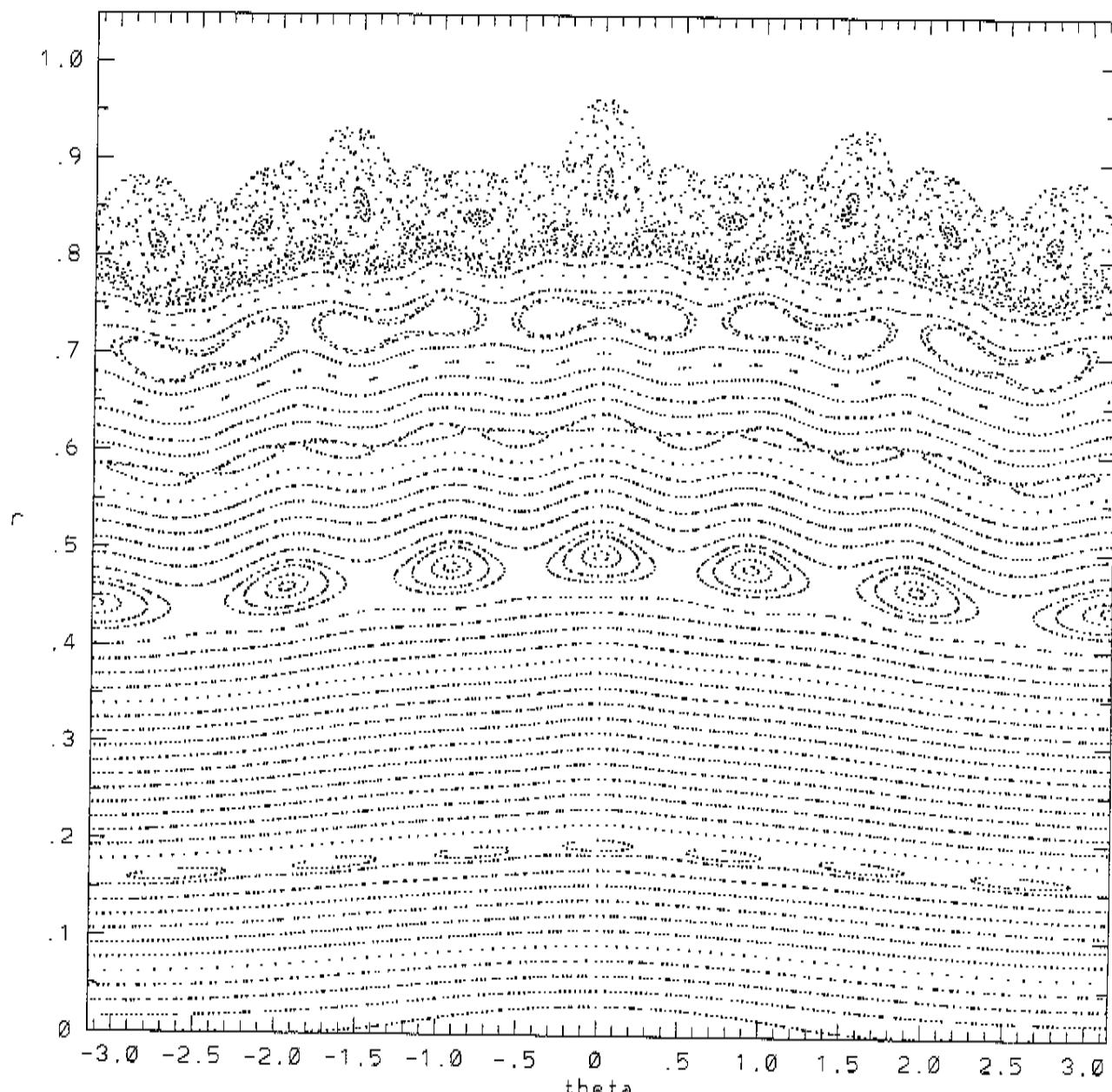
MD2 NO BLENDING



P383mdr1 it= 1 npoint: background coordinates

Plot 23

MOD2T NO BLENDING

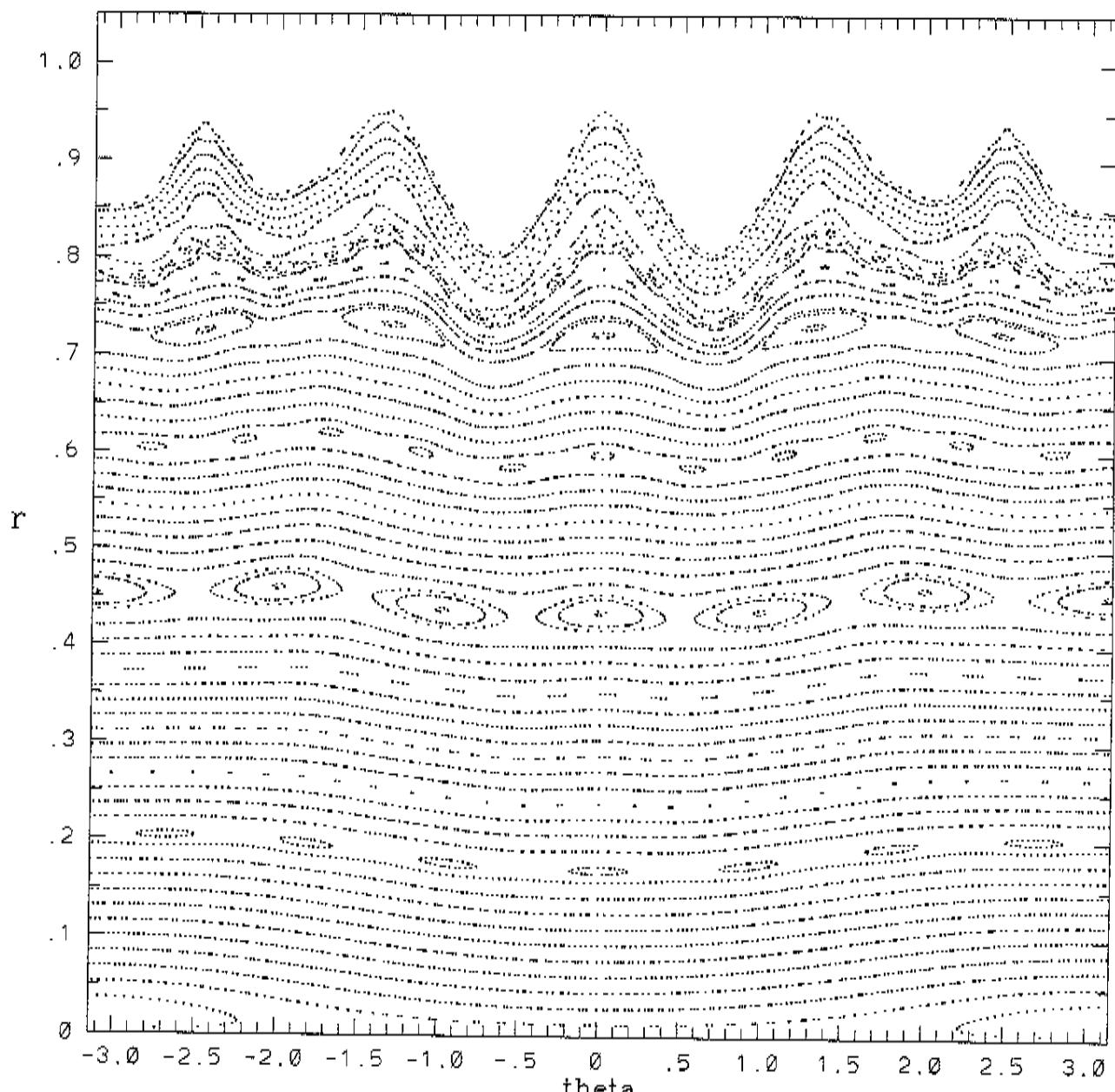


P383mt9

it= 1 npoinc: background coordinates

Plot 6

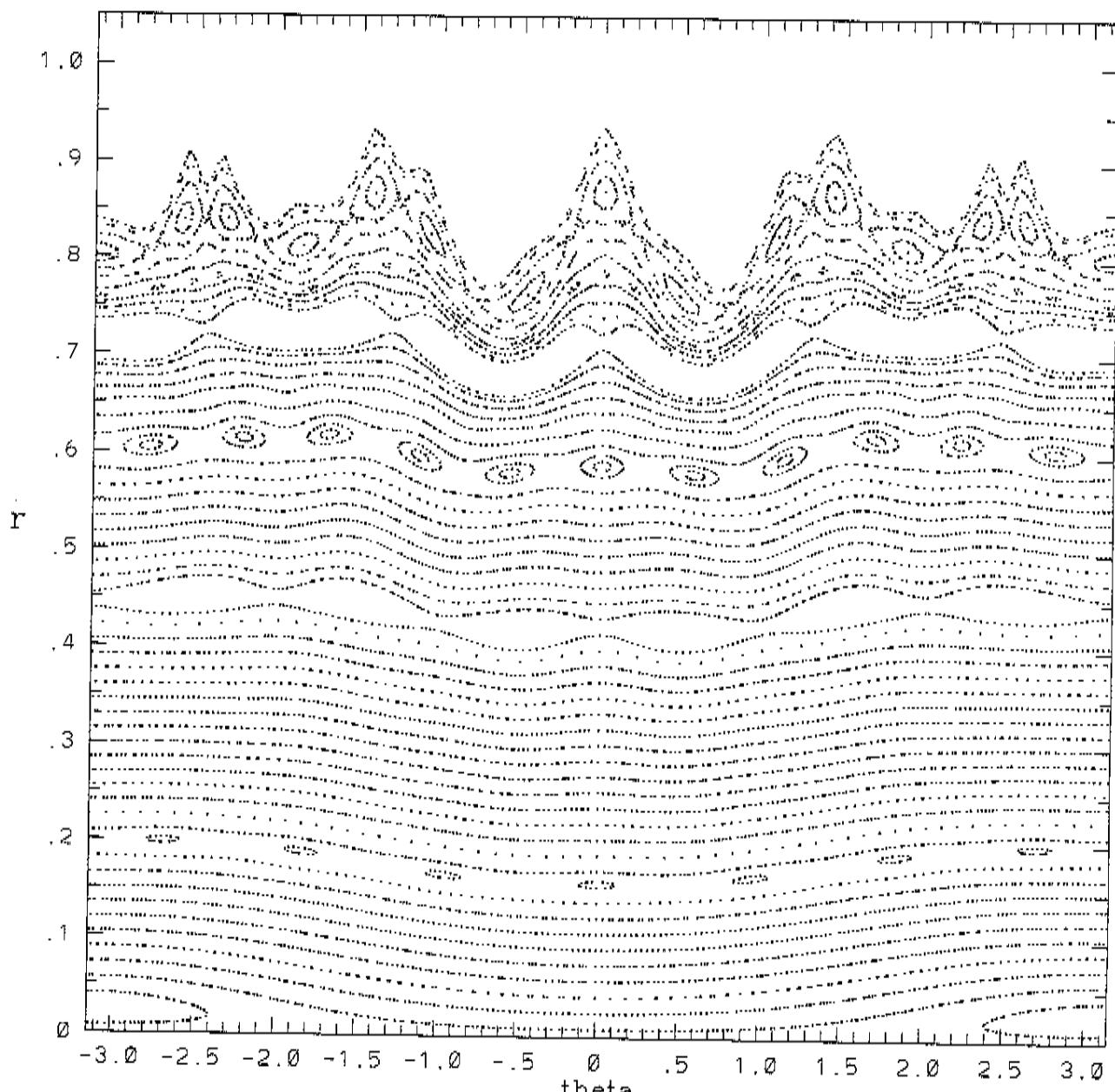
MOD2T



it=601 rpoinc: background coordinates
P383rt9

Plot 1

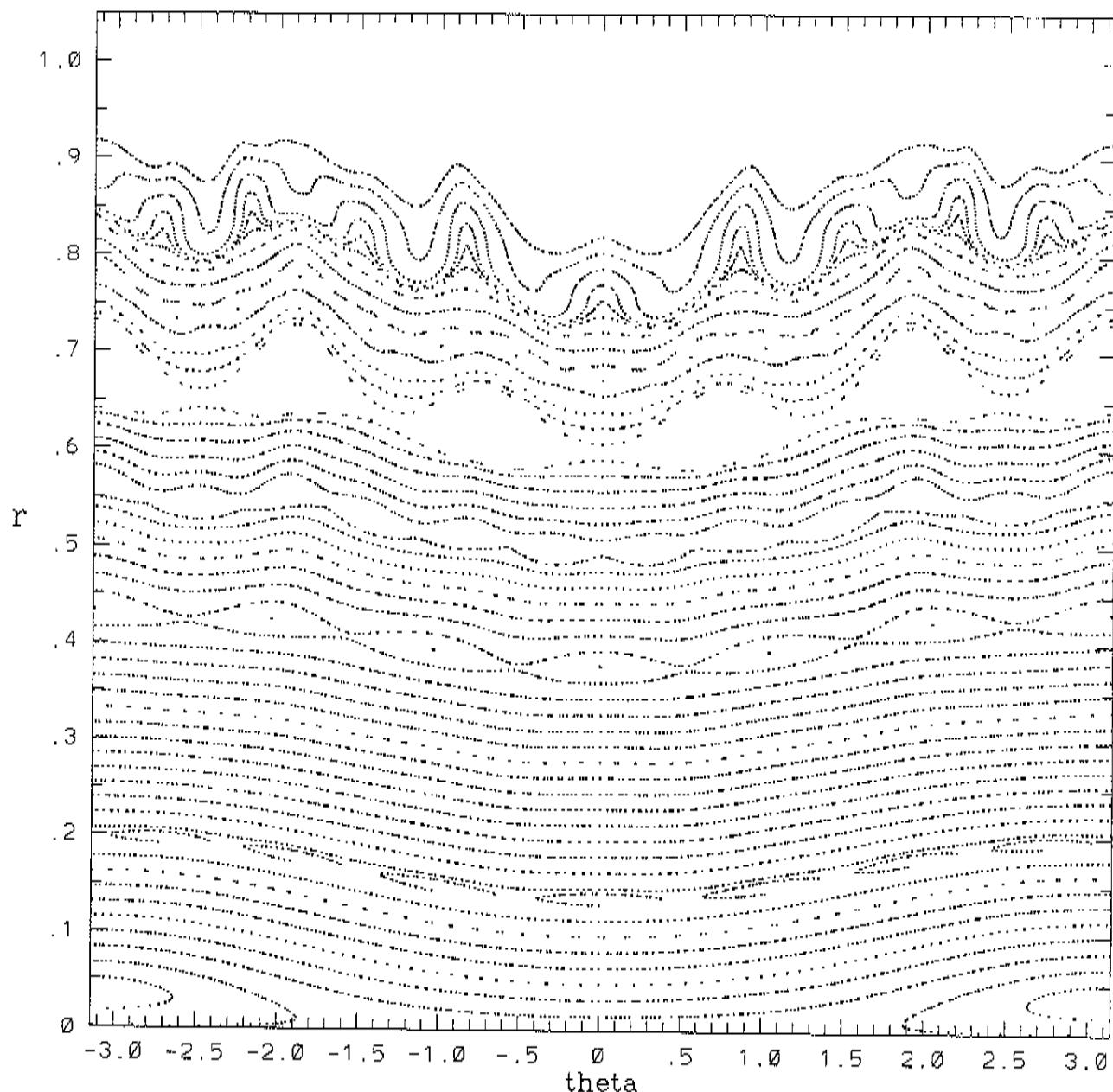
MOD2T NO BLENDING



it=602 rpoinc: background coordinates
P383rt9

Plot 6

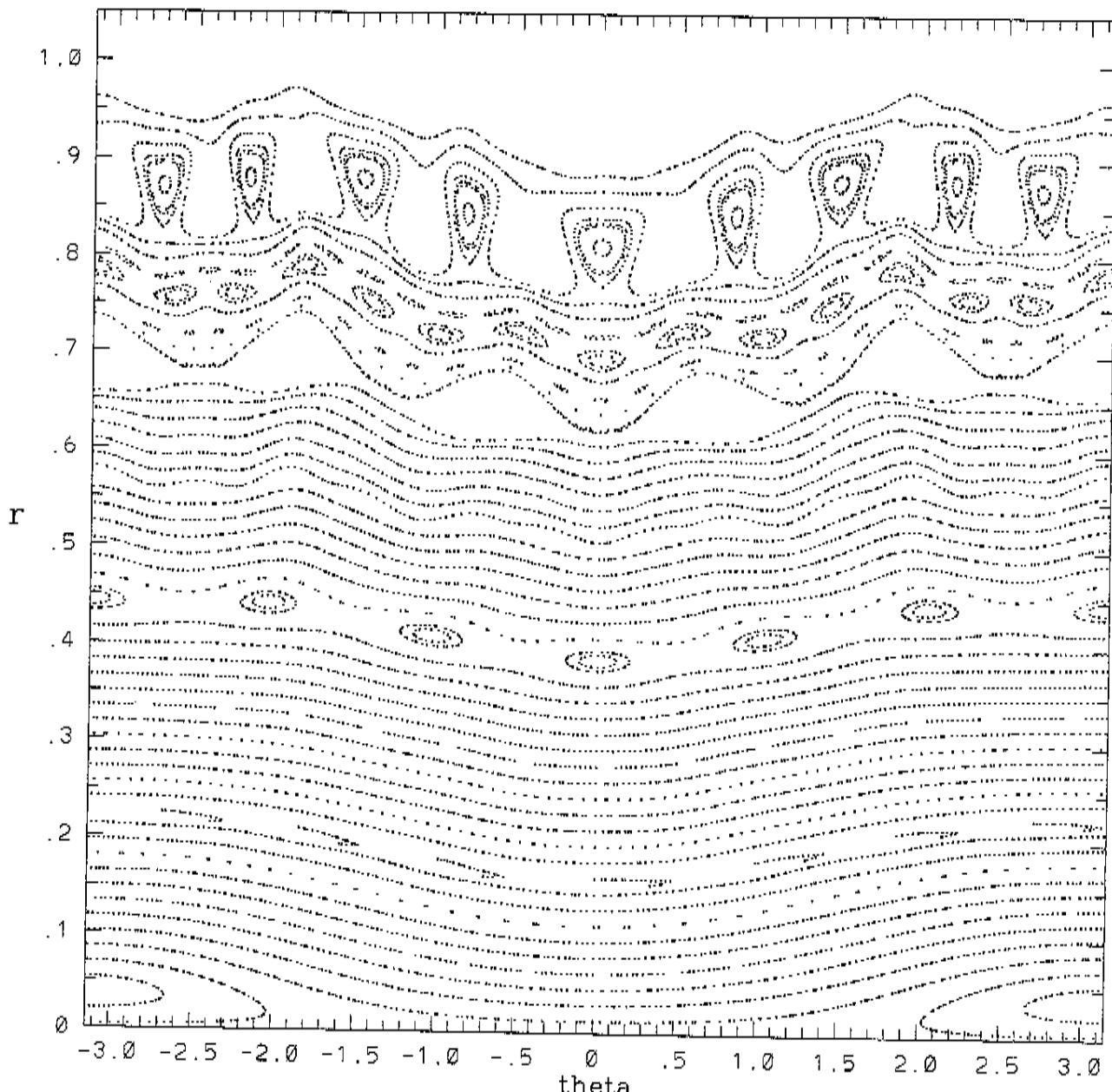
SAD6



it=289 rpoinc: background coordinates
s berrc5

Plot 406

SAD7



it=300 rpoinc: background coordinates
s xerrc6

Plot 371

Conclusions

- Trim coils can be effective in reducing the size of islands
- For li383, present $m=5$ trim coil seems to cause large $m=5$ islands in the vacuum region. This may be a problem for all configurations which have iota decreasing at the edge.
- There is not much difference between Xerr and Berr targeting for li383 saddle coils.