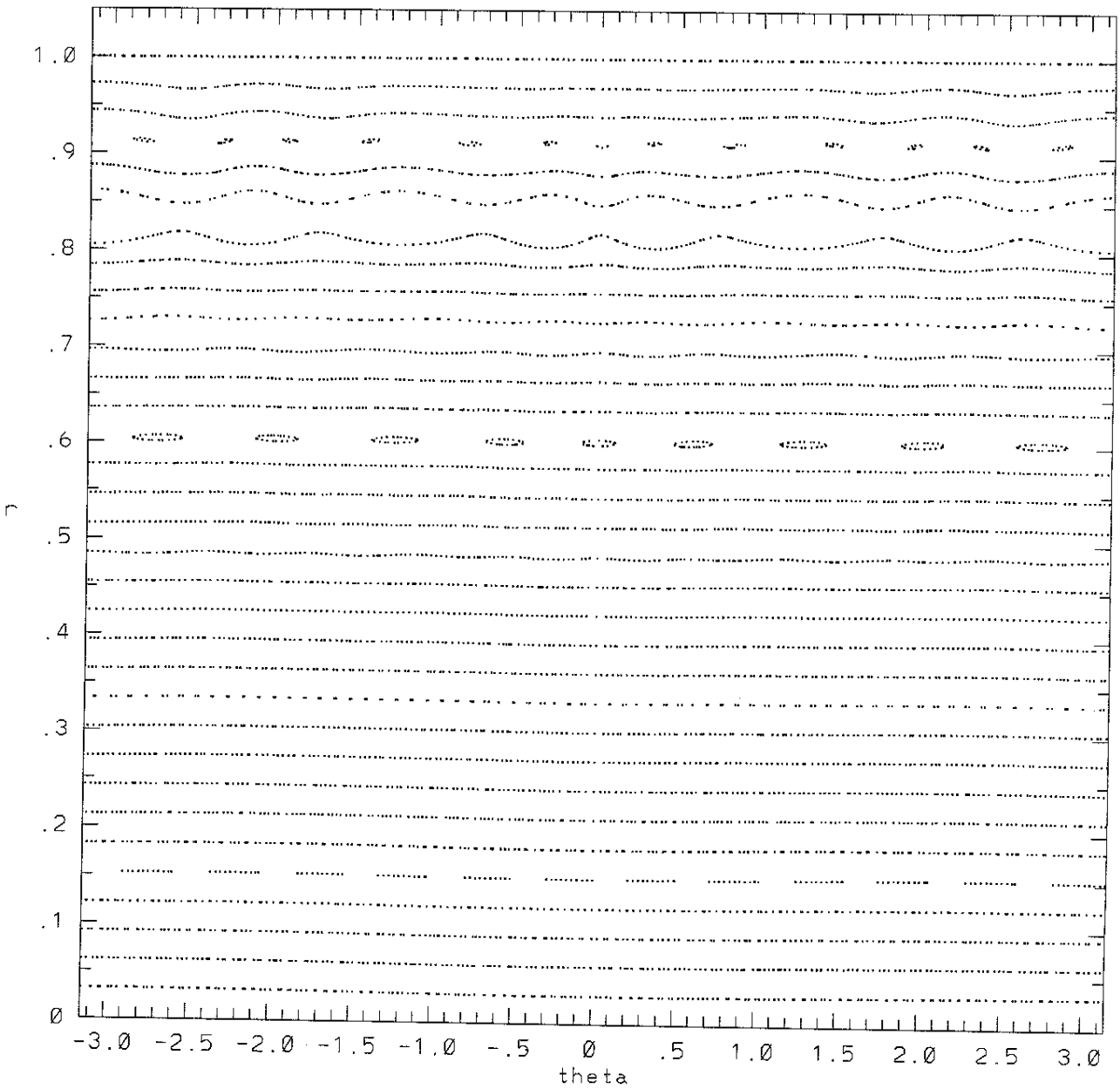
C82 Equilibrium Quality

Don Monticello

- Outline
  - c82 flux surface quality as a function of beta
  - LHD flux surface quality as a function of beta
  - c10 flux surface quality
  - c82 flux surface quality for ballooning stable beta
  - W7-AS flux surface quality - 30KA, 0% beta
  - c82 and c10 using vmec currents
  - future plans

C82 0% Beta

Full Current

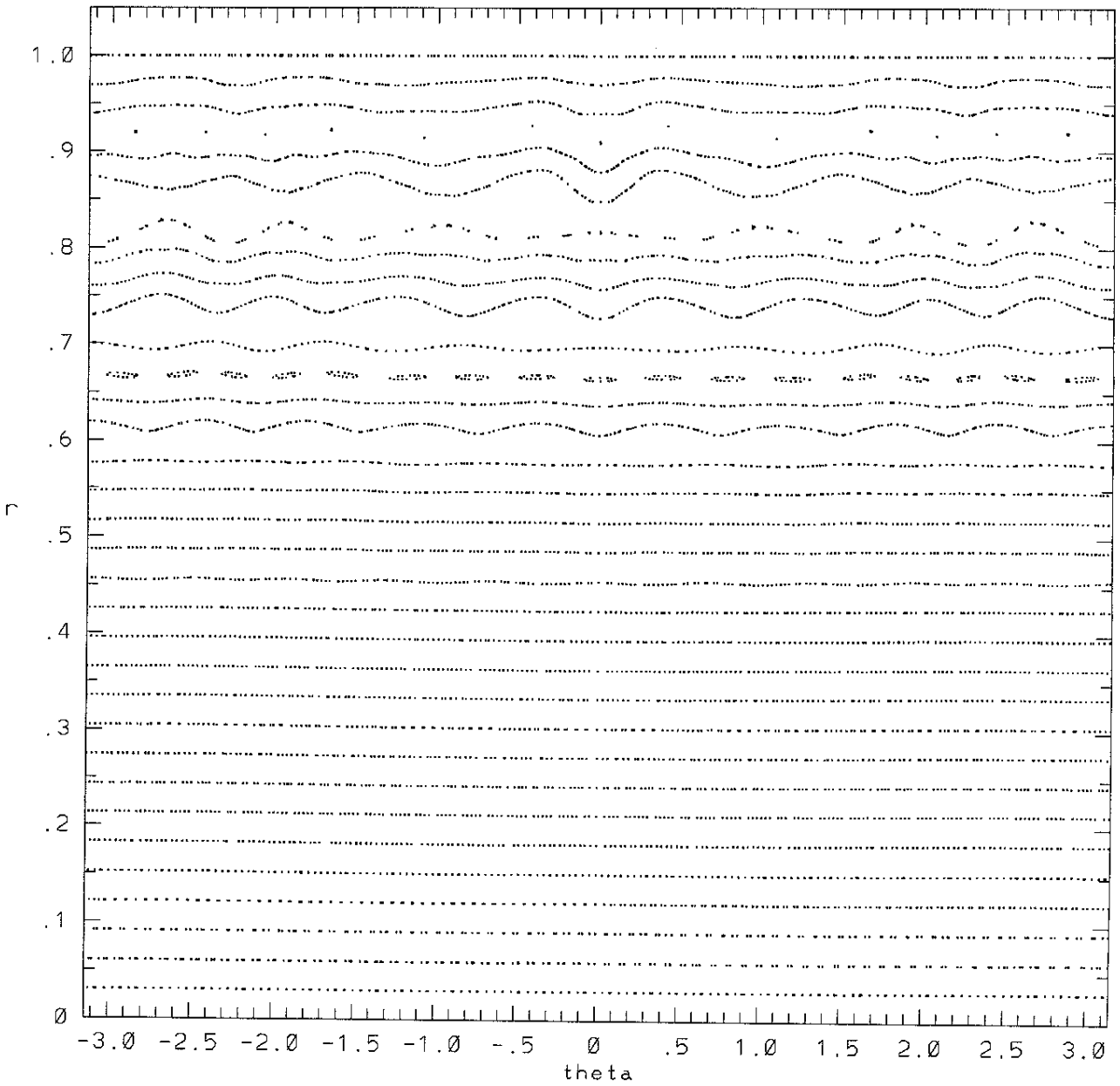


it= 8 rpoinc: background coordinates

Plot 145

C82 1.9% Beta

Full Current

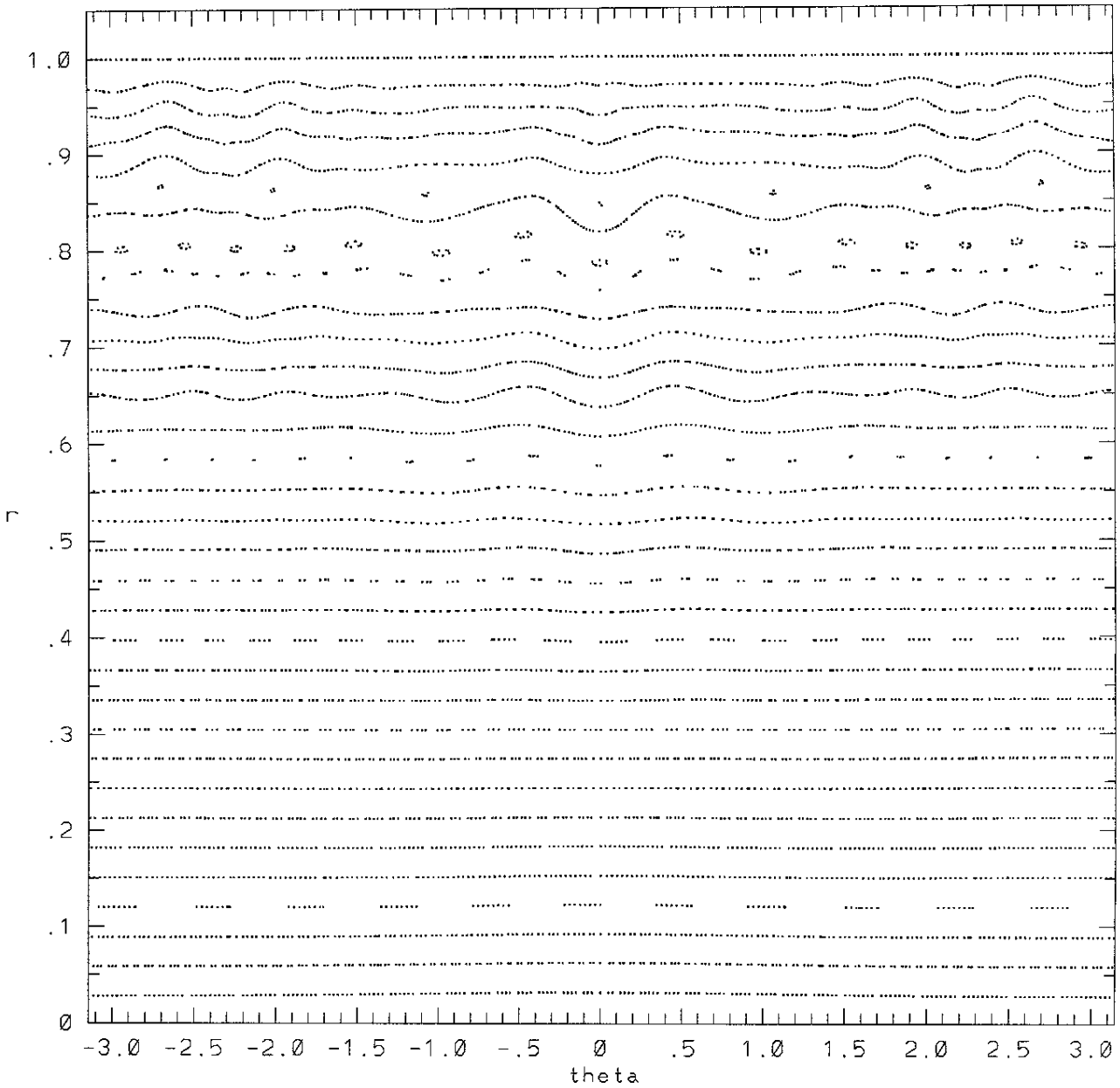


it= 8 rpoinc: background coordinates

Plot 145

C82 2.9% Beta

Full Current

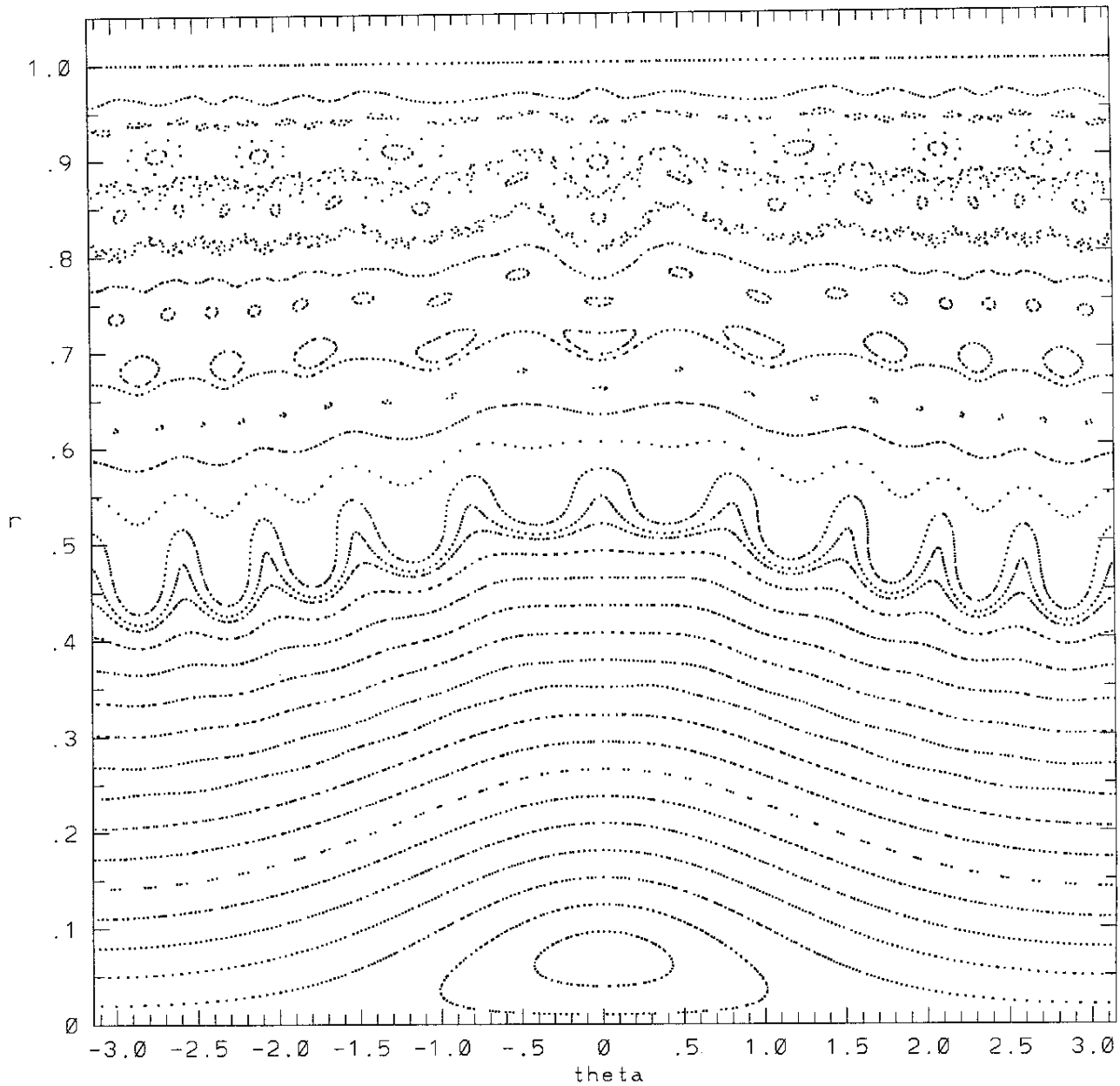


it= 8 rpoinc: background coordinates

Plot 145

C82 3.4% Beta

Full Current

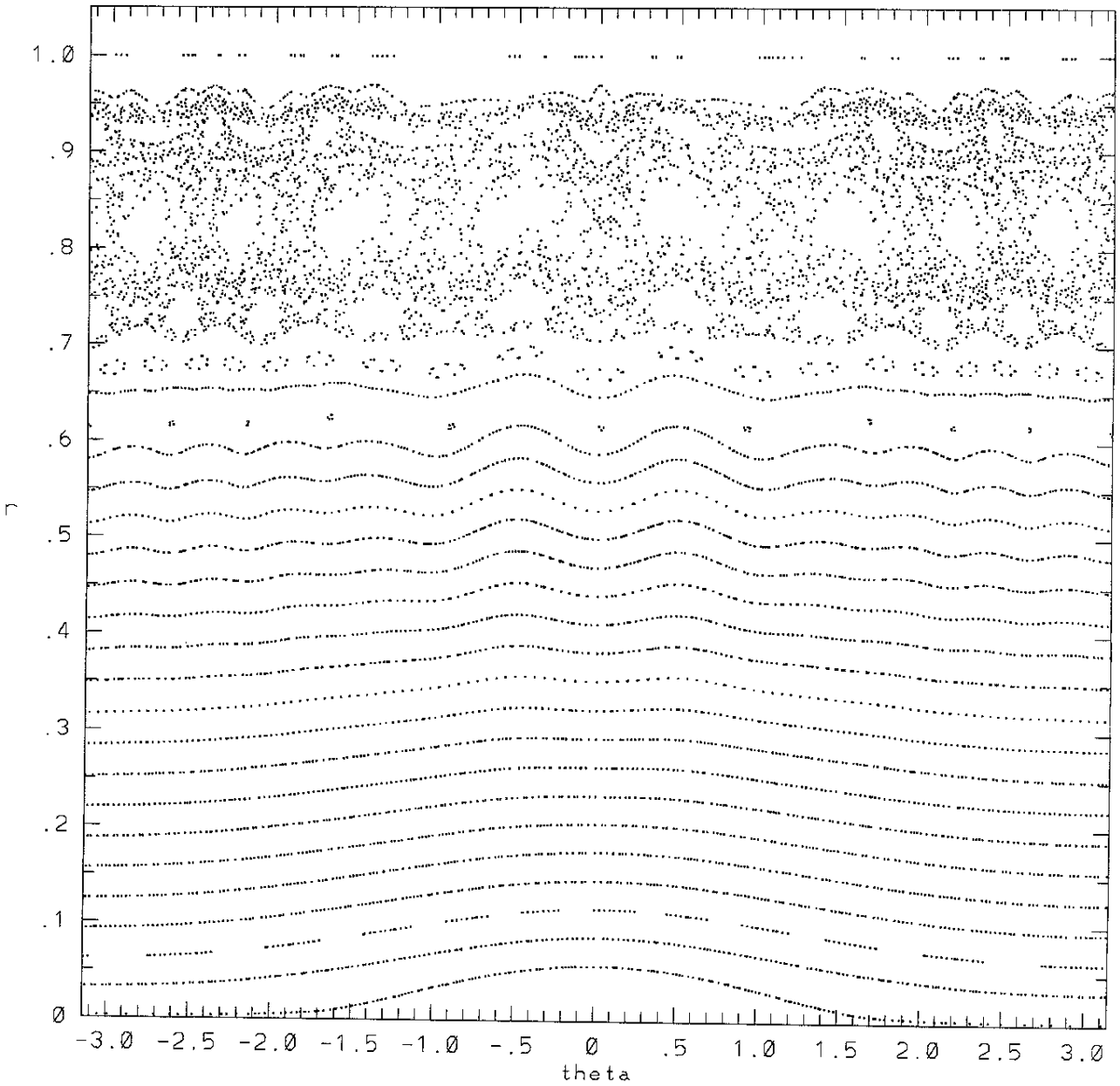


it= 8 rpoinc: background coordinates

Plot 145

C 82 3.9% Beta

Full Current

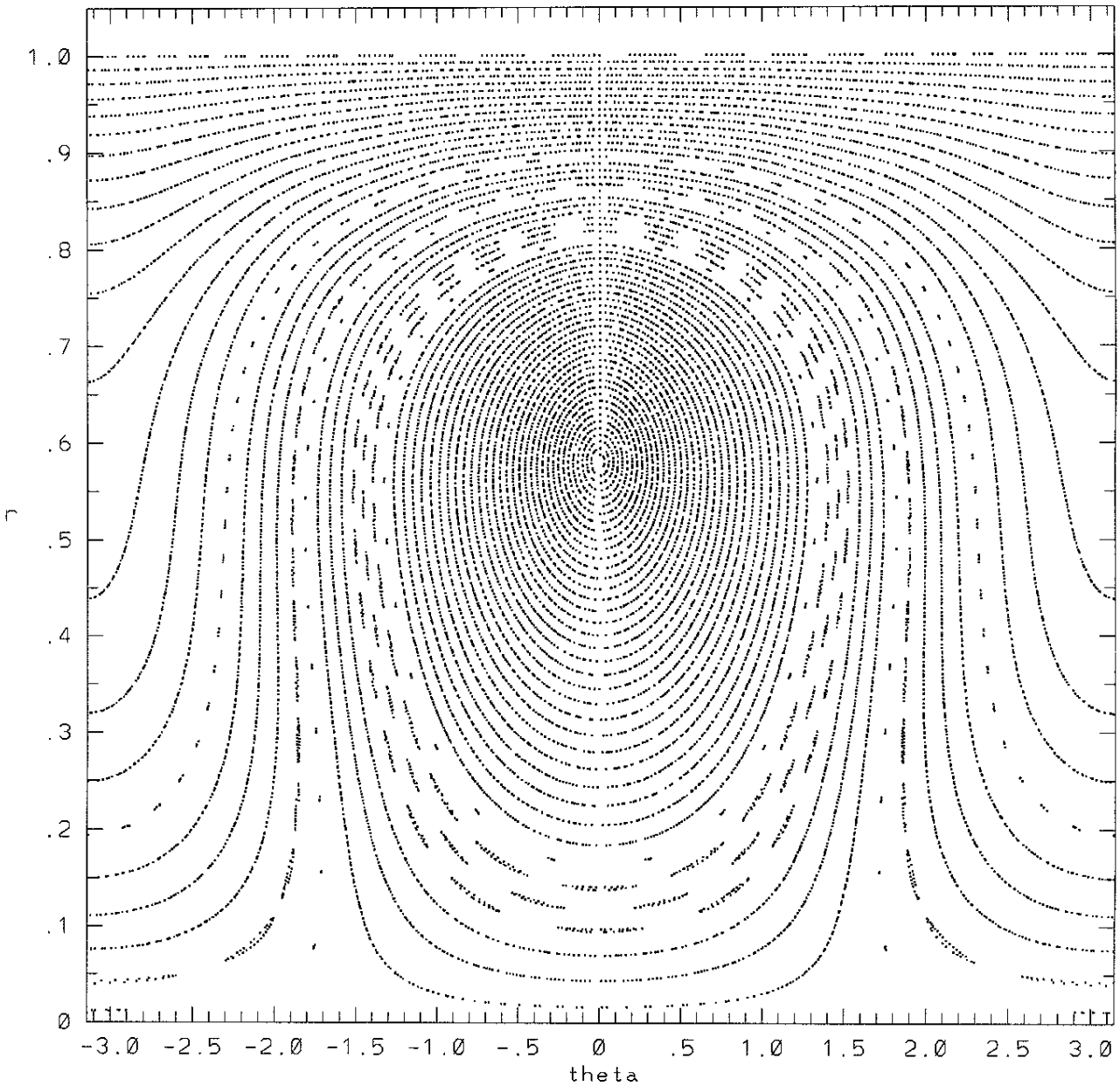


it= 8 rpoinc: background coordinates

Plot 73

LHD

≈ 2% Beta

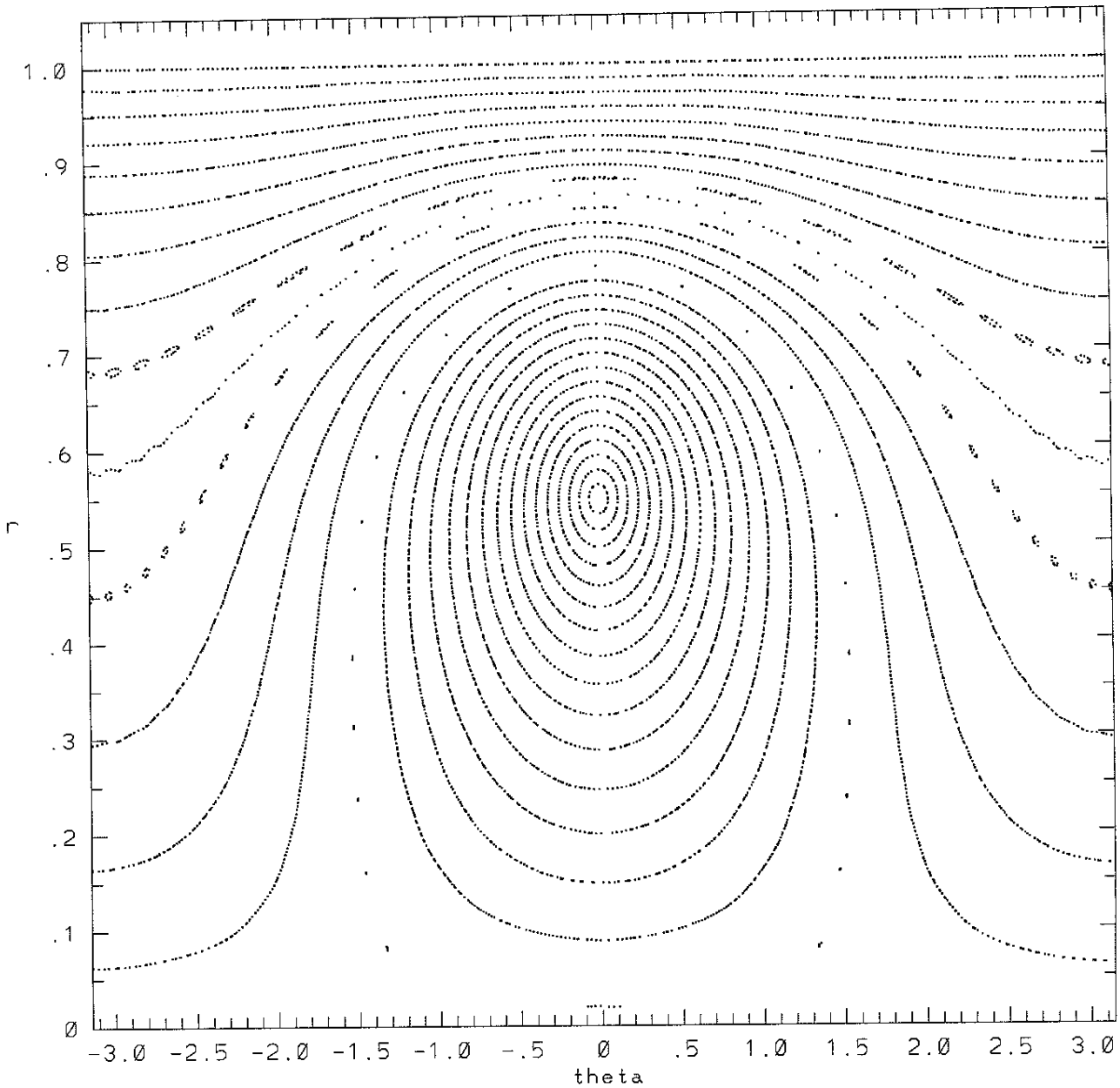


it= 36 islplt: background coordinates

Plot 23

LHD

≈ 3% Beta

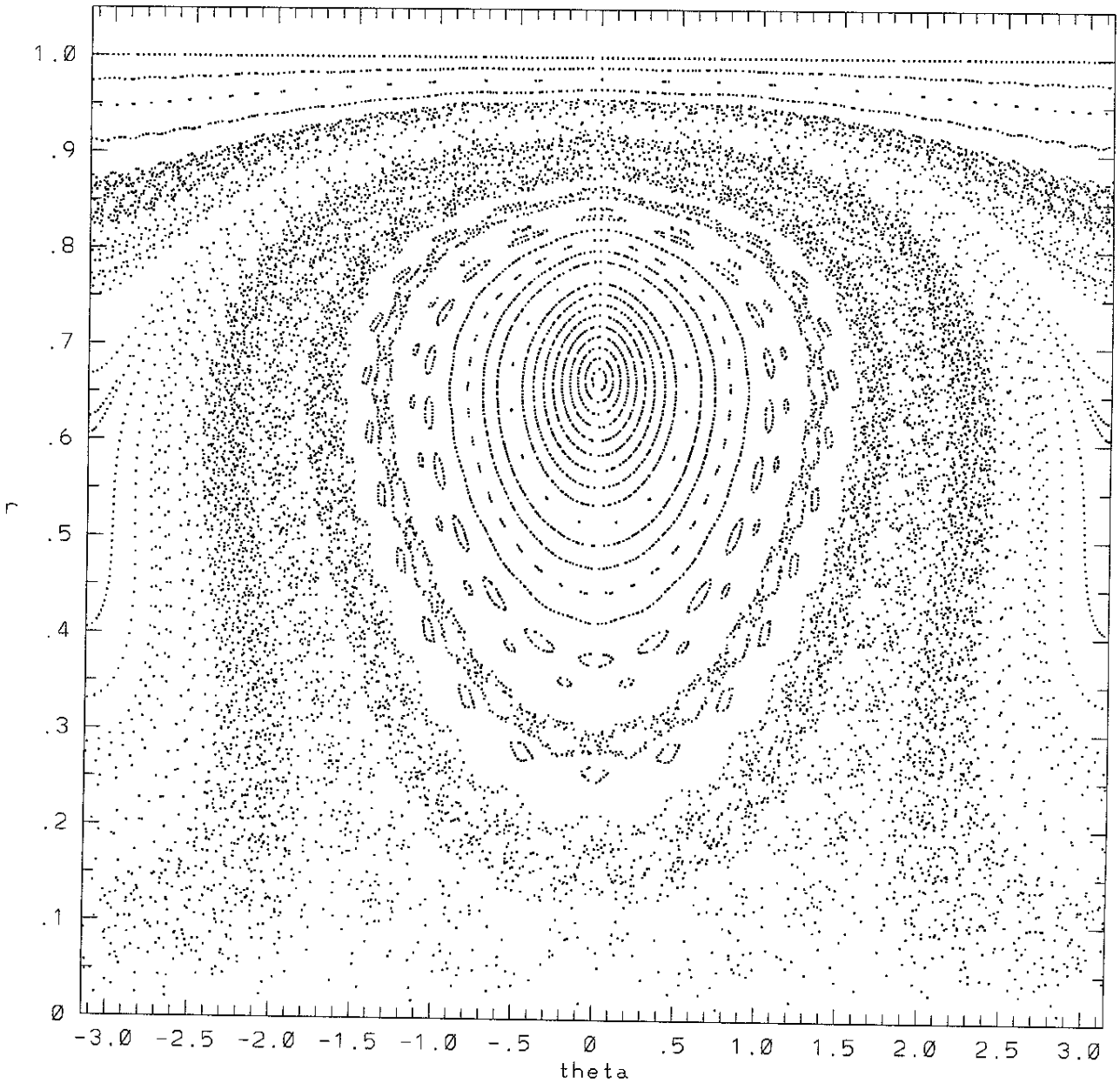


it= 45 islplt: background coordinates

Plot 101

LMD

≈ 4% Beta

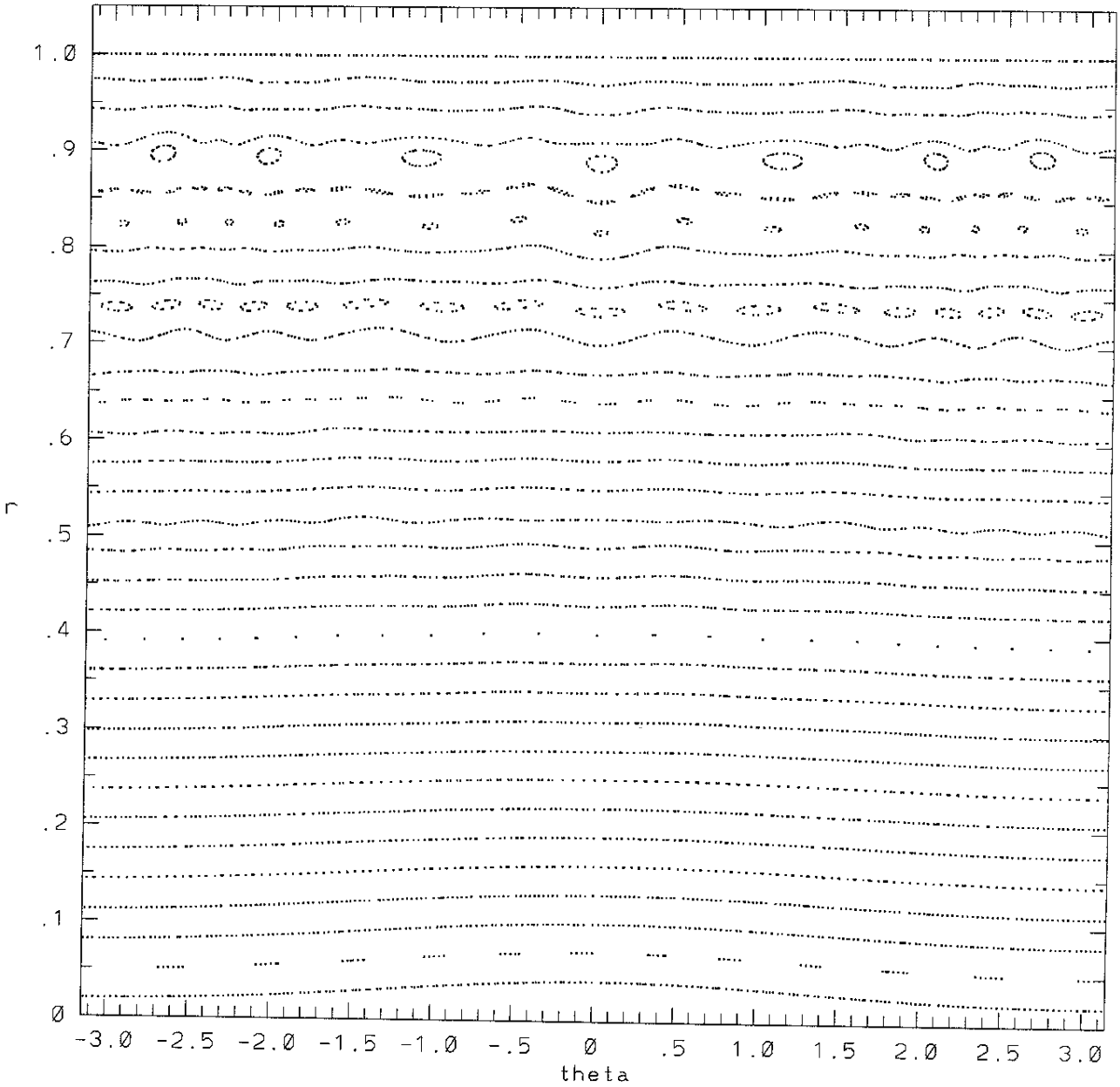


it= 57 islplt: background coordinates

Plot 23

C 10 3.9% Beta

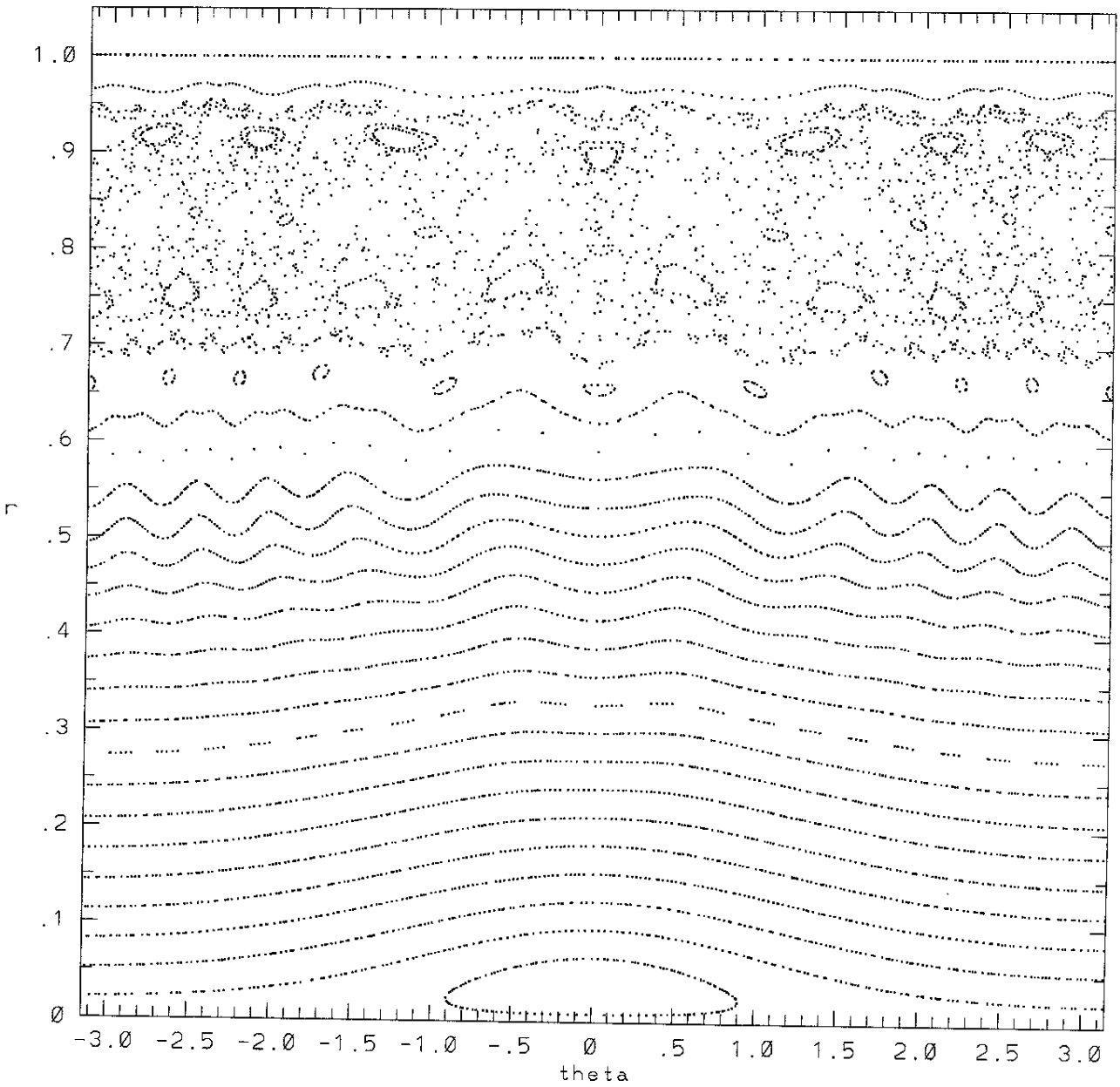
Full Current



it= 25 rpoinc: background coordinates

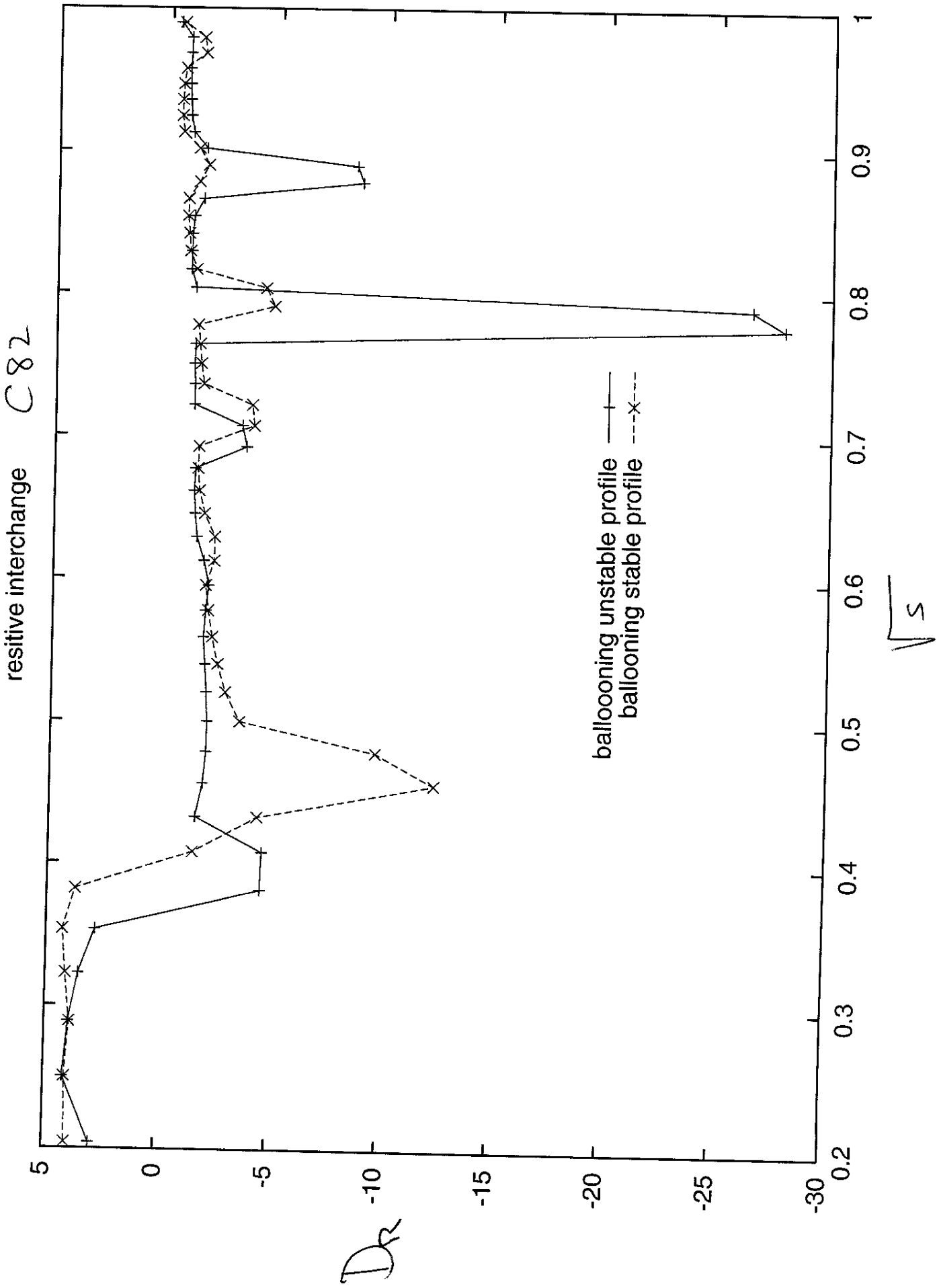
Plot 109

C82 3.9% Beta
Full Current
Ballooning, Stable Pressure Profile



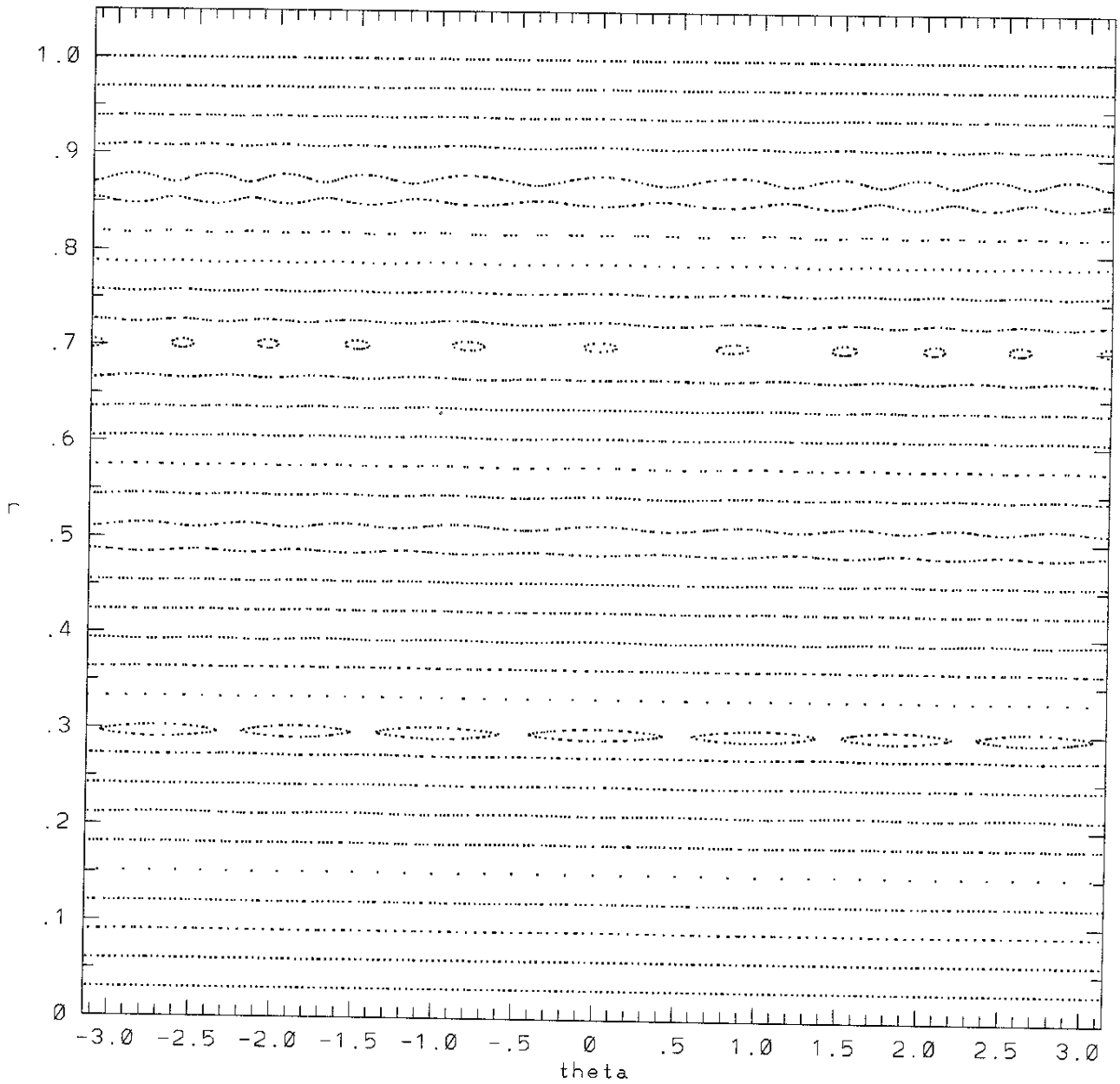
it= 8 rpoinc: background coordinates

Plot 73


resitive interchange
C82
ballooning unstable profile
ballooning stable profile
5
0
-5
-10
-15
-20
-25
-30
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
$\sqrt{s}$
D_R

PIES RESULTS

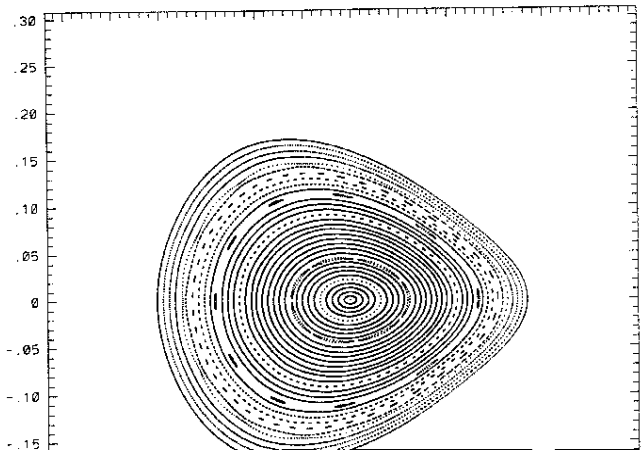
FOR +30KA W7-AS CASE

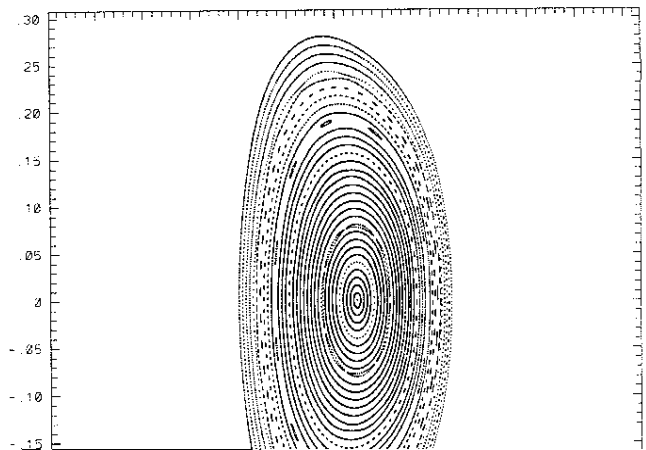


it= 16 rpoinc: background coordinates

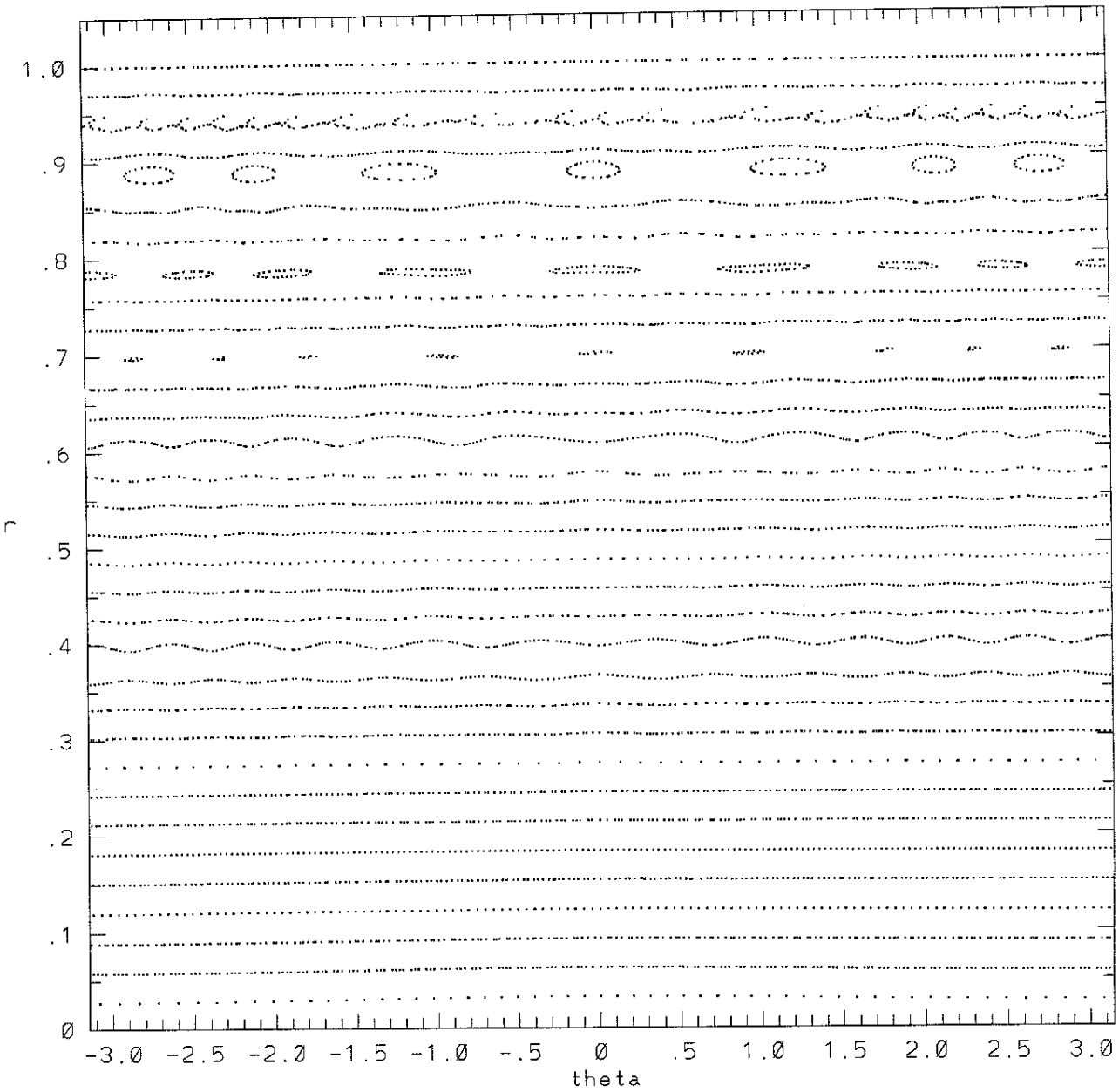
Plot 127

PIES RESULTS
for +30 KA W7-AS CASE





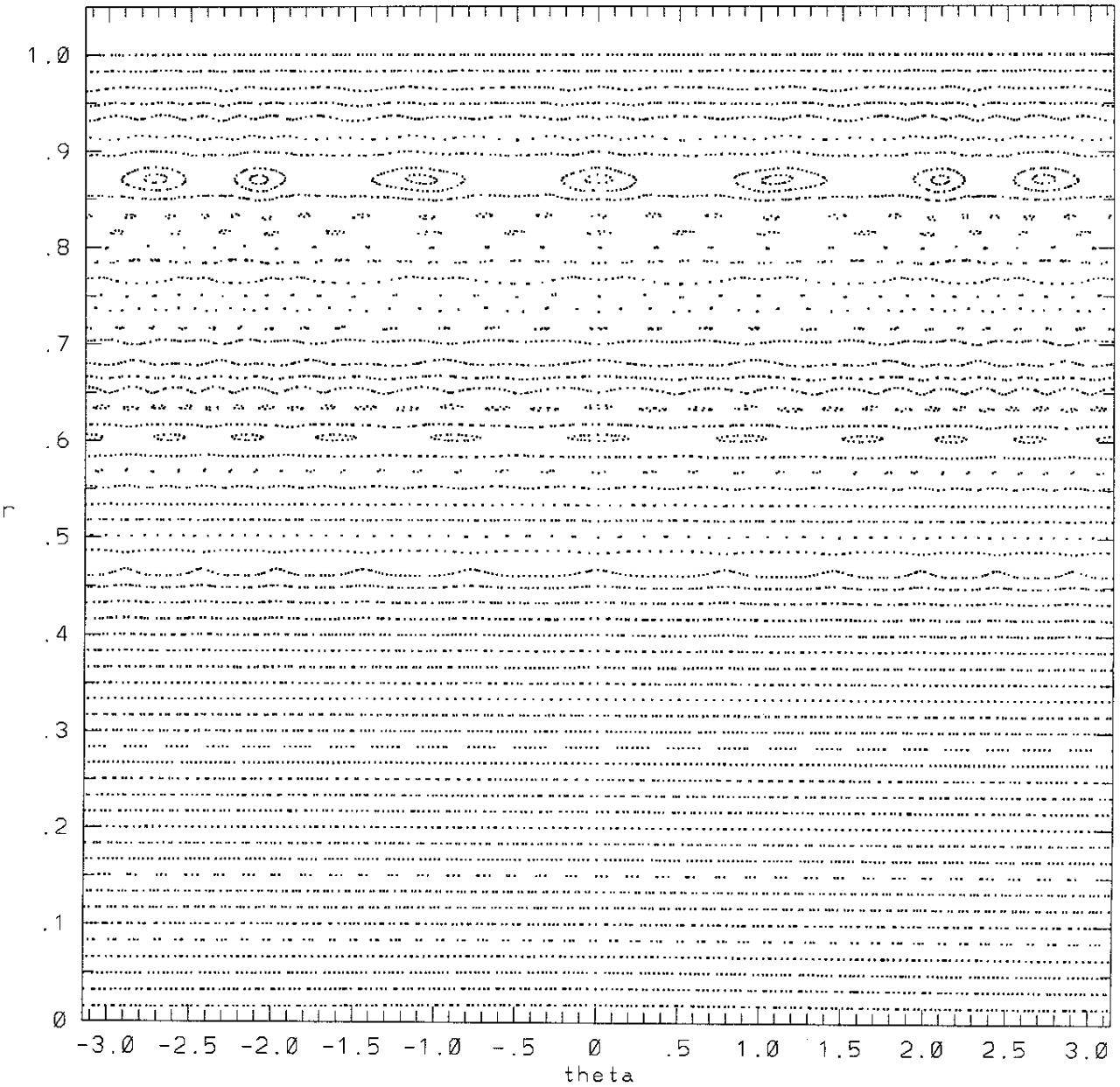
C82 Full Beta
Full Current
VMBC Currents



it= 1 rpoinc: background coordinates

Plot 120

C10 Full Beta
Full Current
VMBC Currents



it= 1 rpoinc: background coordinates

Plot 74