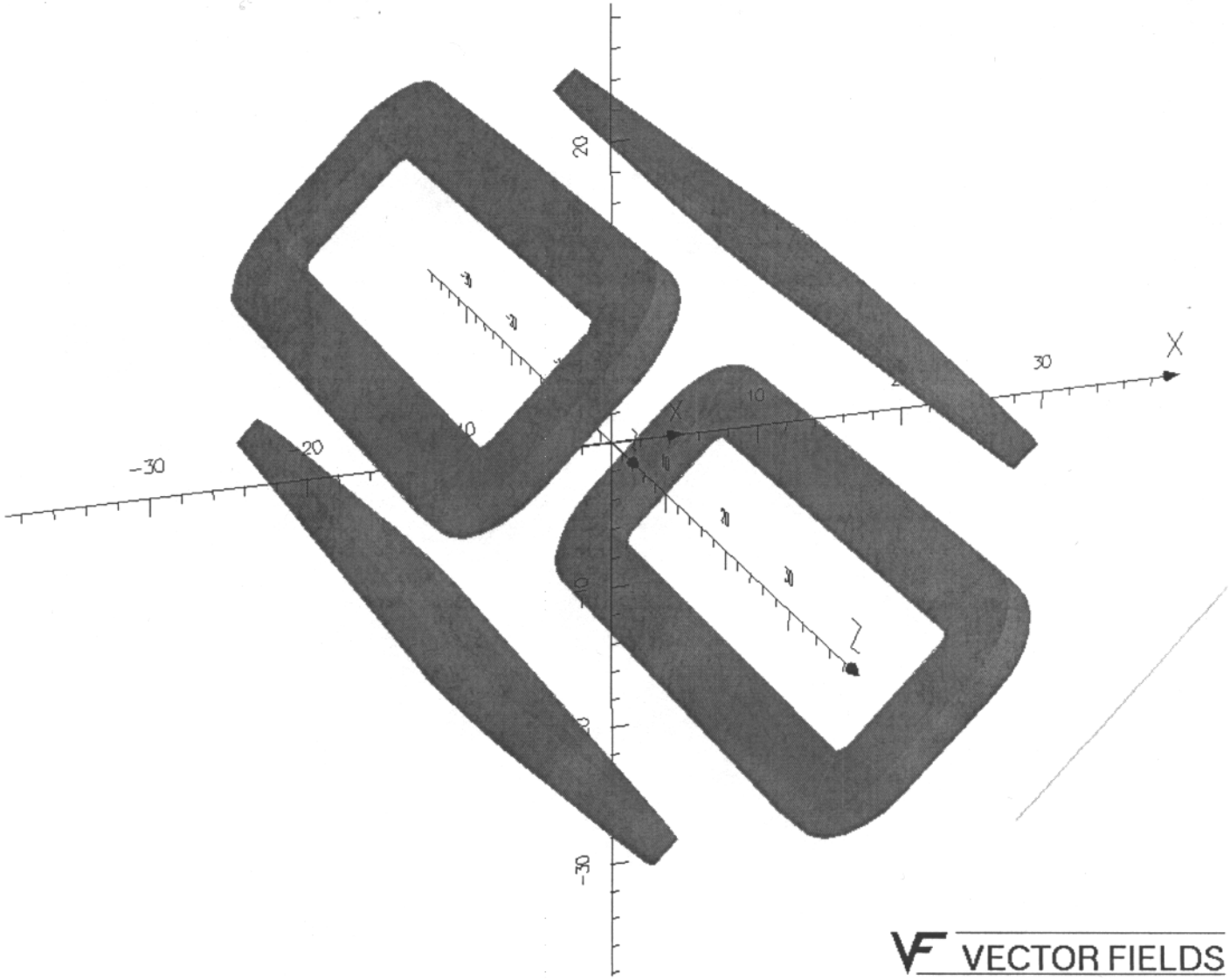
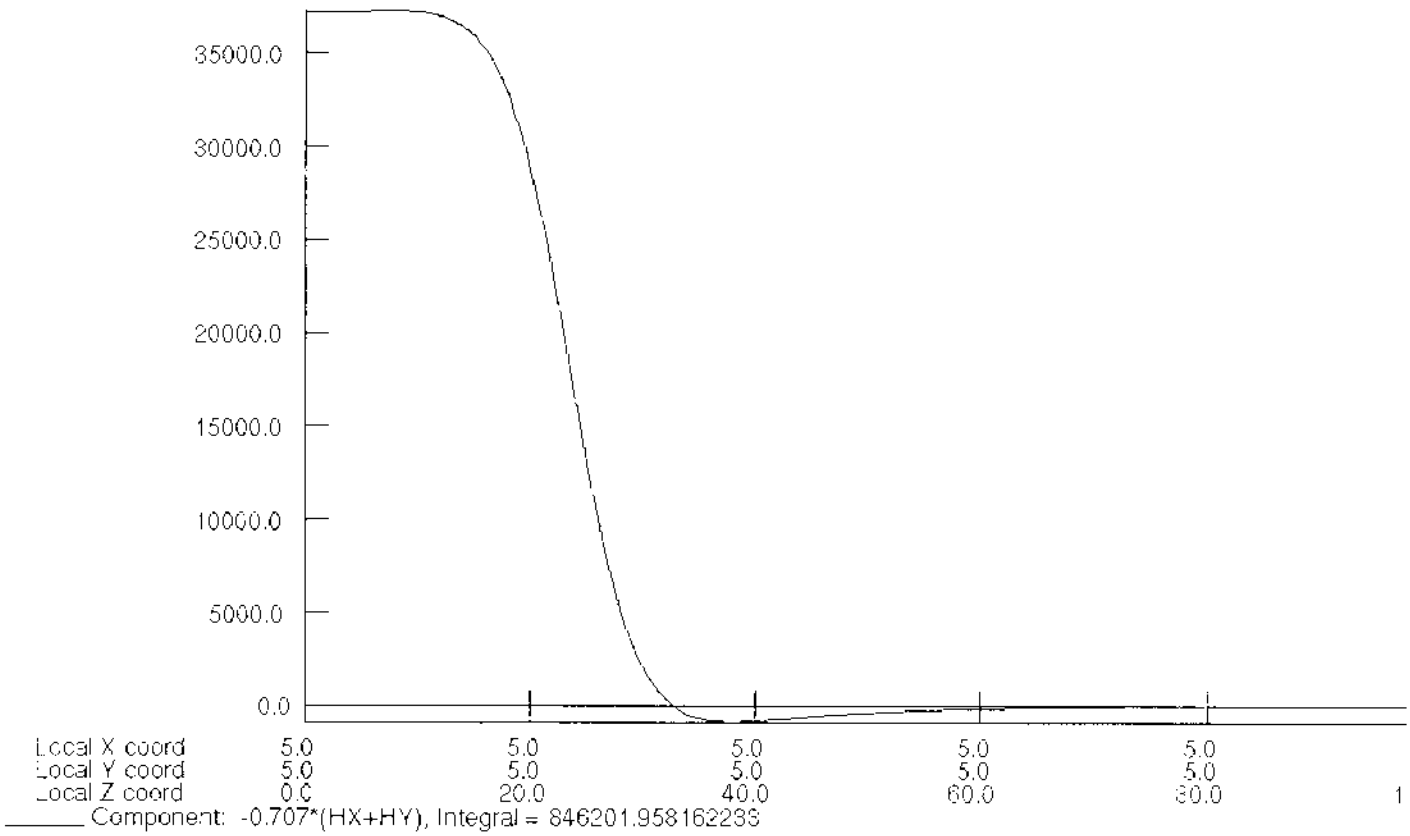
1500
500
360
300
500
1500
1000
13000
9000
250


1000
500
480
500
1500
8000
500
250

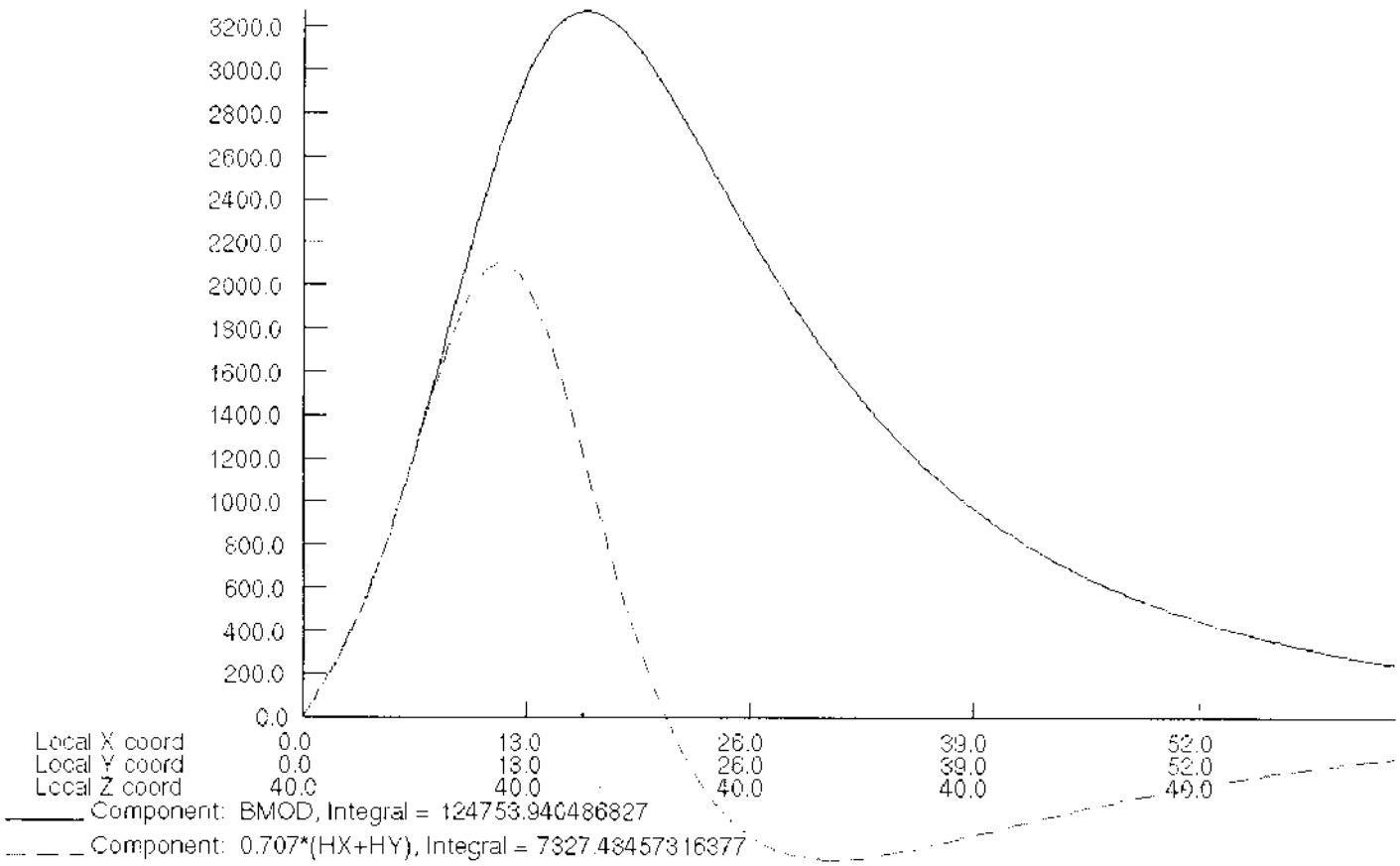

1000
500
480
500
1500
5000
500
250



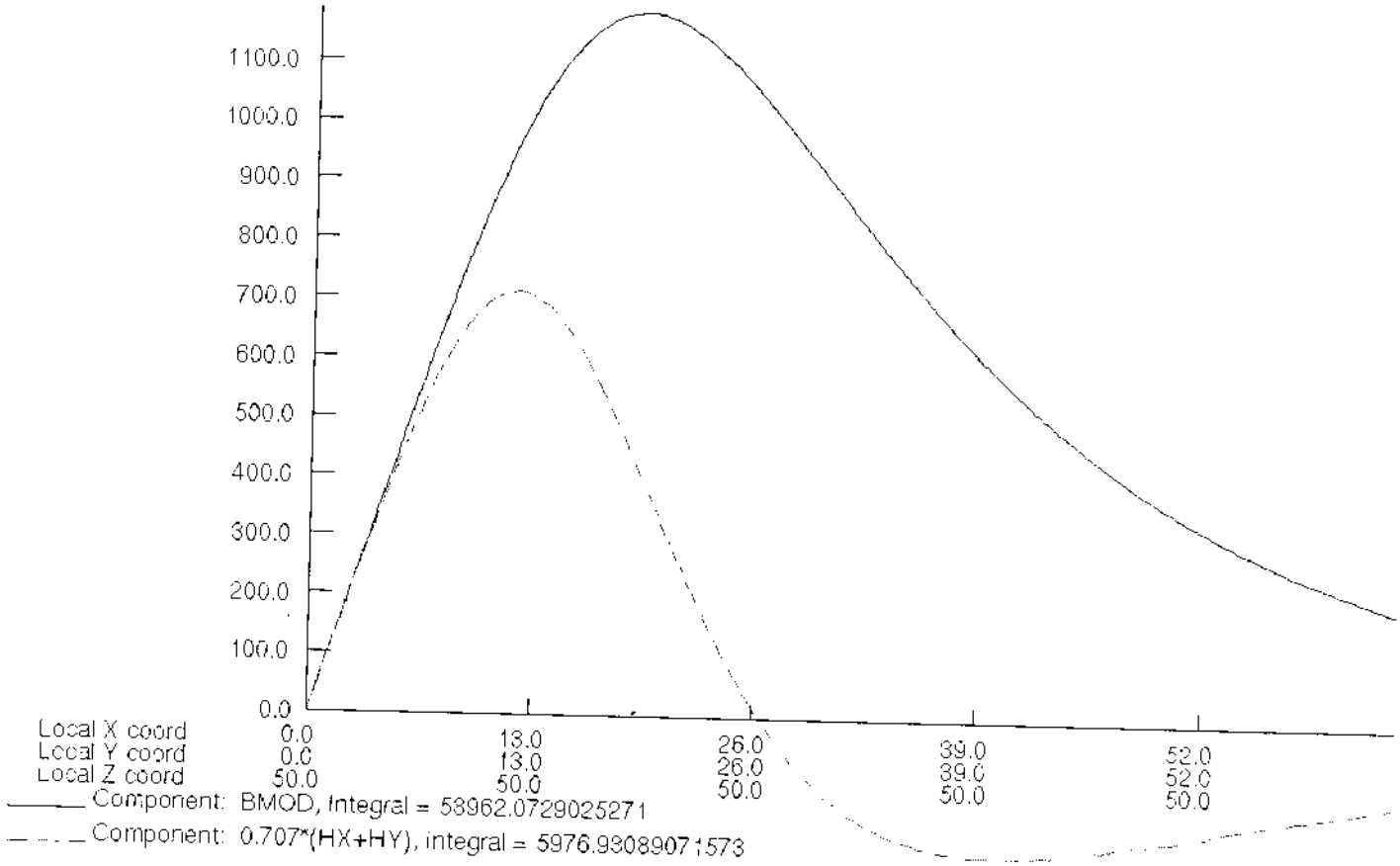

VF VECTOR FIELDS



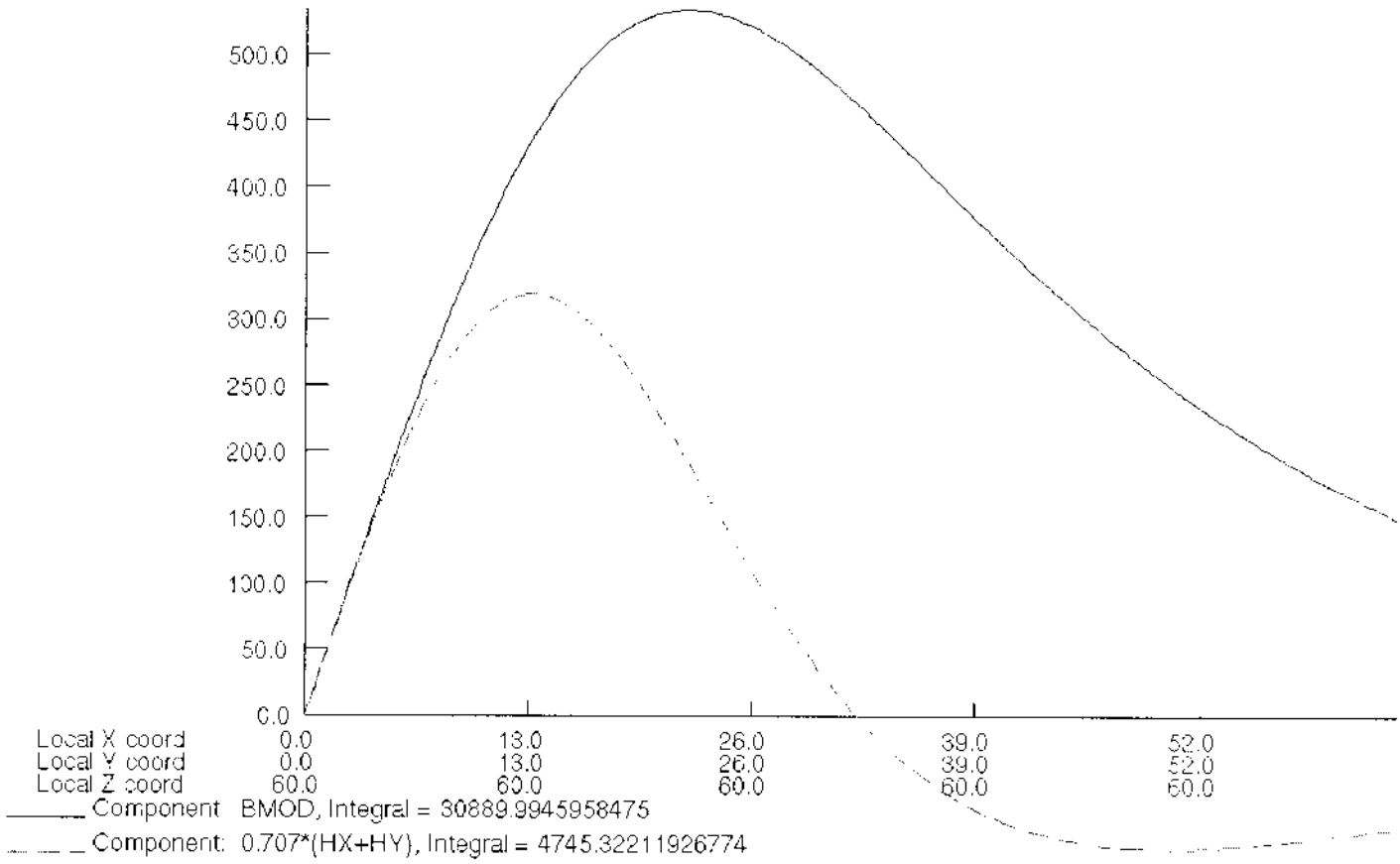

VECTOR FIELDS



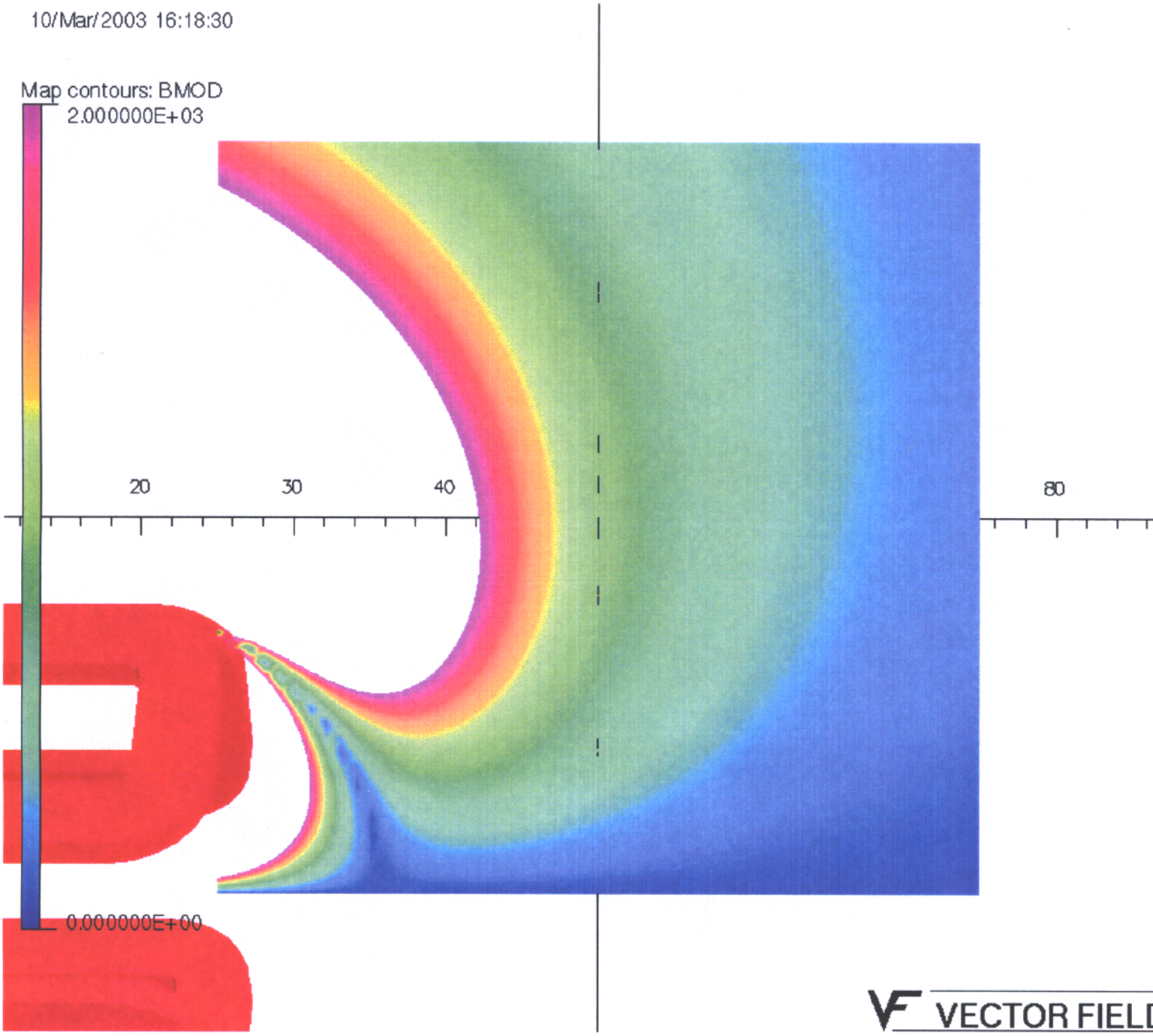

VECTOR FIELDS



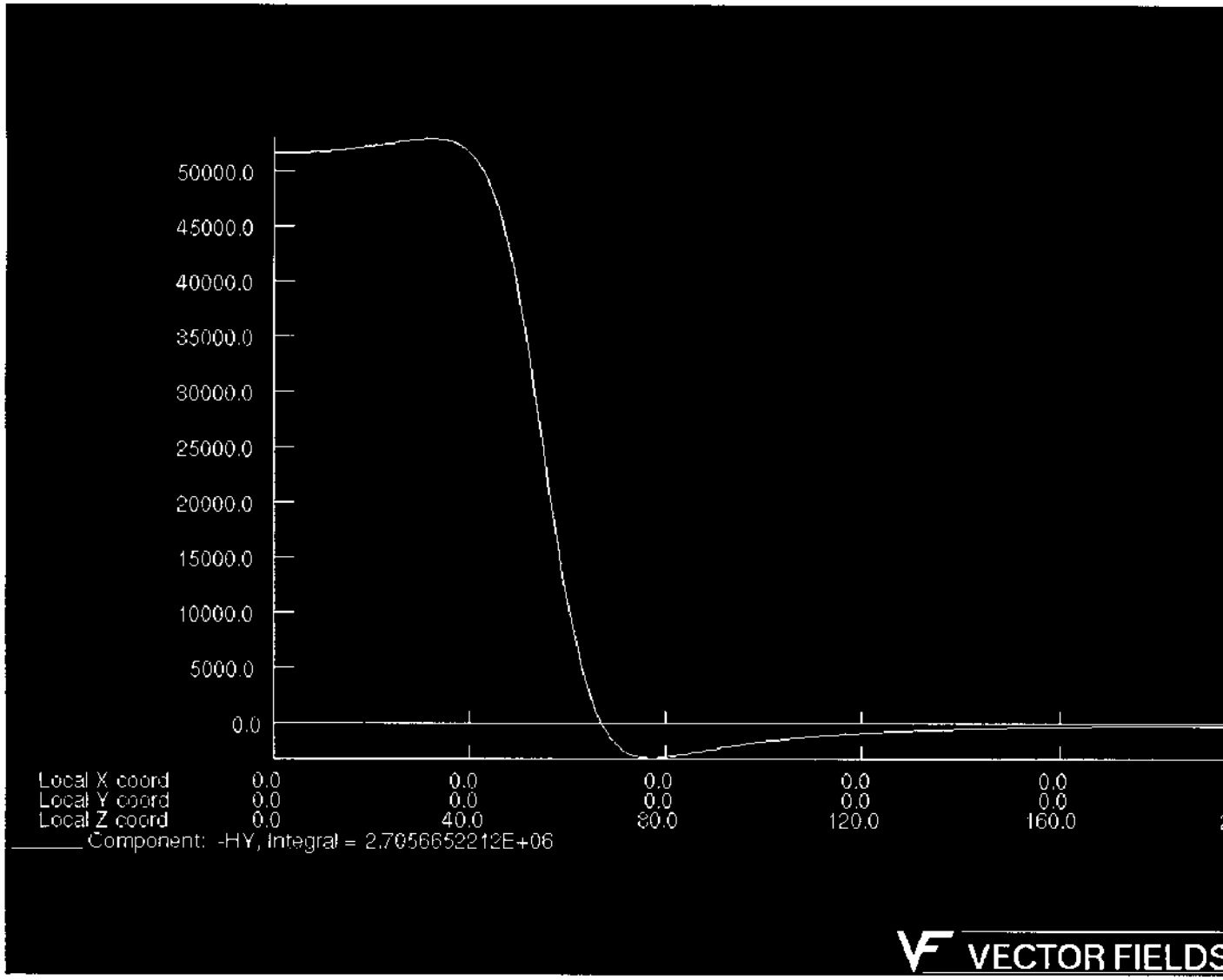

VF VECTOR FIELDS




VECTOR FIELDS




VF VECTOR FIELD


50000.0
45000.0
40000.0
35000.0
30000.0
25000.0
20000.0
15000.0
10000.0
5000.0
0.0
Local X coord 0.0 0.0 0.0 0.0 0.0
Local Y coord 0.0 0.0 0.0 0.0 0.0
Local Z coord 0.0 40.0 80.0 120.0 160.0
Component: -HY, Integral = 2.7056652212E+06
VECTOR FIELDS

I have made a simple model (model 1) of a quadrupole with a single layer of
racetrack coils with ir=15 cm and full "effective" length of 50 cm. The
current is set to get 3.6 T at 7.5 cm radius (approximately the desired
gradient). I
look at a plot of Bmod (and Btrans) in a plane transverse to Z at various Z.
This
model has NO shielding of the coils.

| Z (from Quad ctr) | Z(from Quad end) | Bmod_peak | Radius of peak |
|---|---|---|---|
| 40 cm | 15 cm | 3200 g | 23 cm |
| 50 cm | 25 cm | 1200 g | 27.5 cm |
| 60 | 35 | 460 g | 30 |
| 70 | 45 | 240 g | 34 |
| 80 | 55 | 135 g | 39 |
| 85 | 60 | 105 g | 41 |