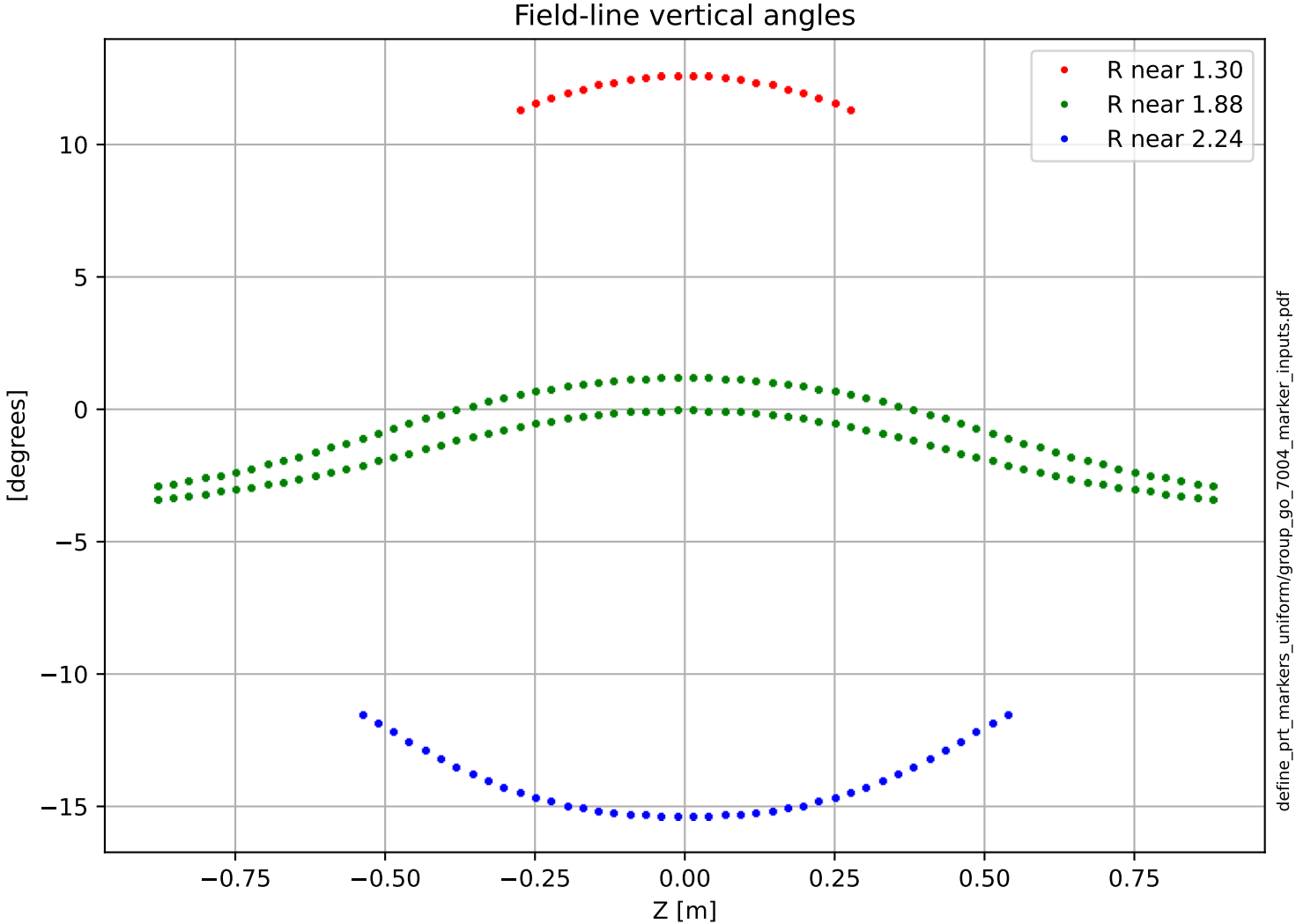
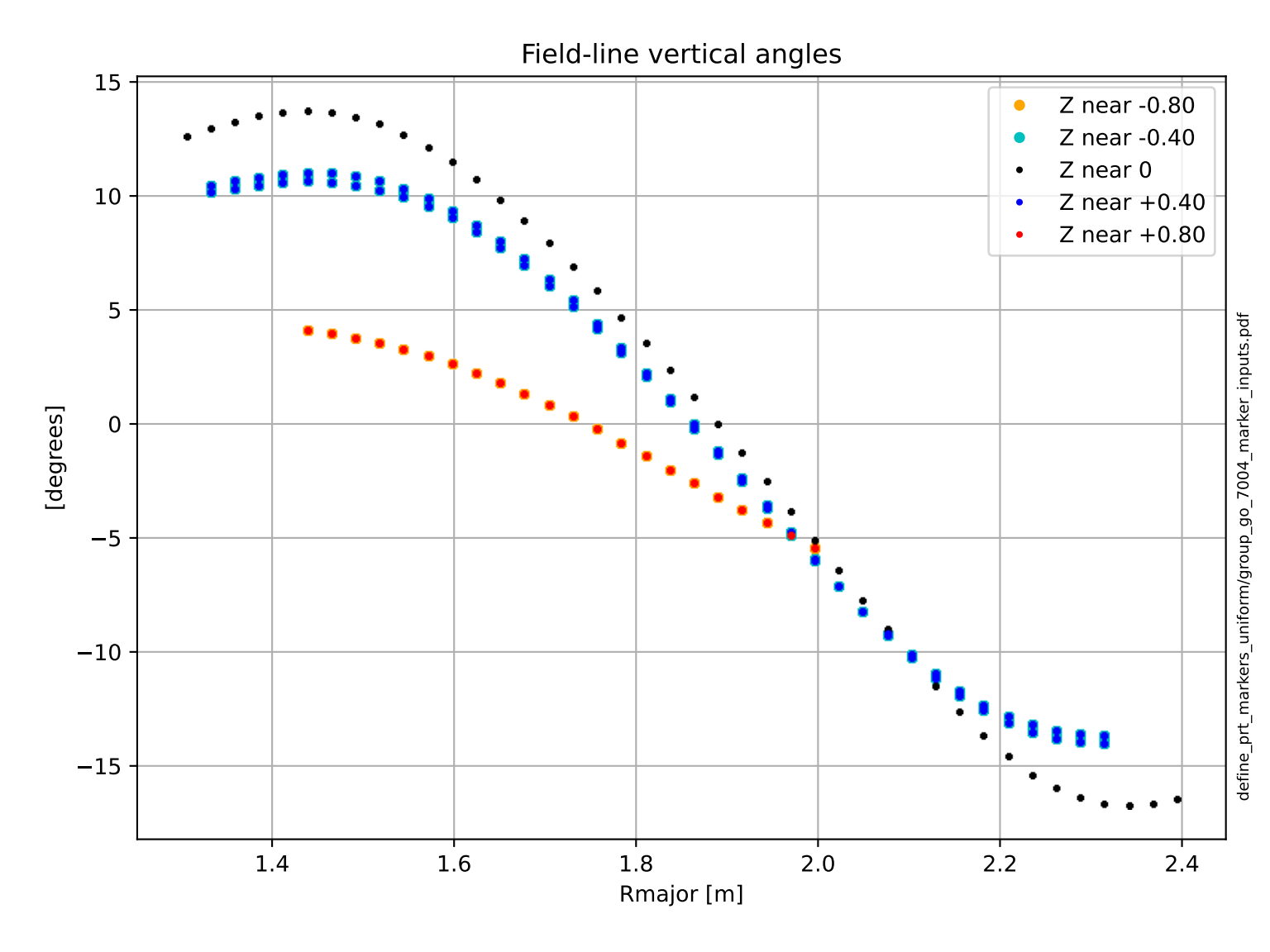
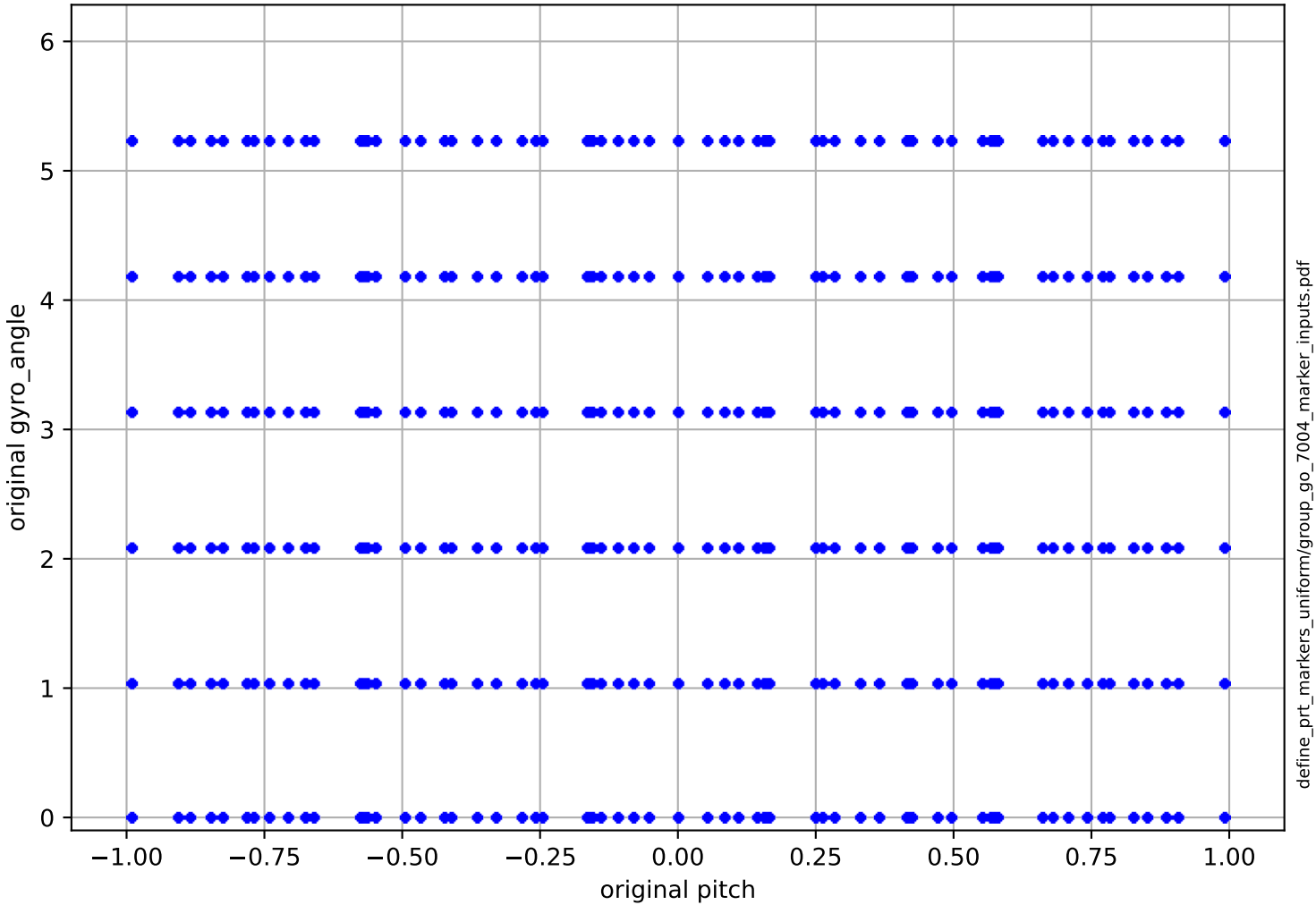
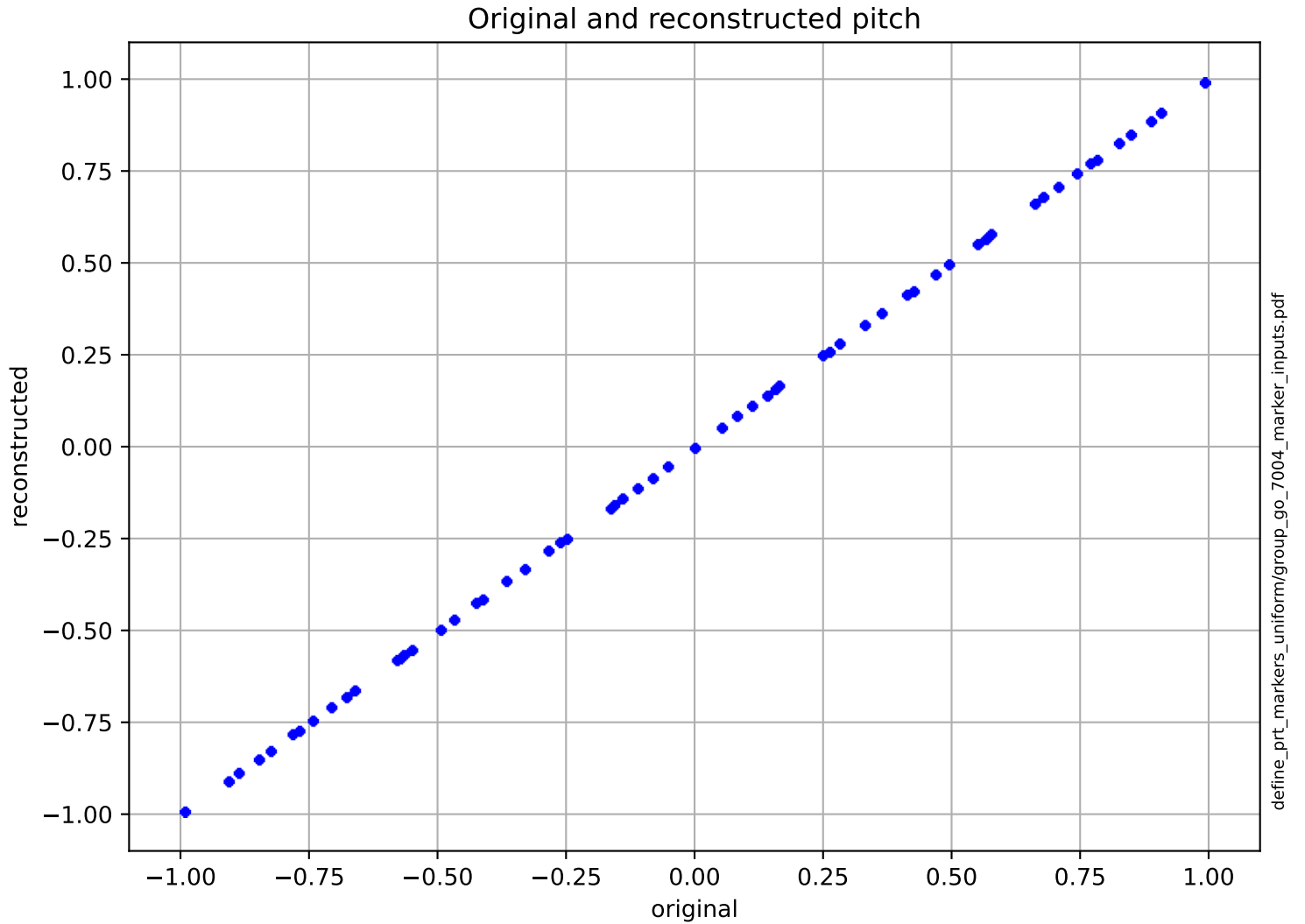
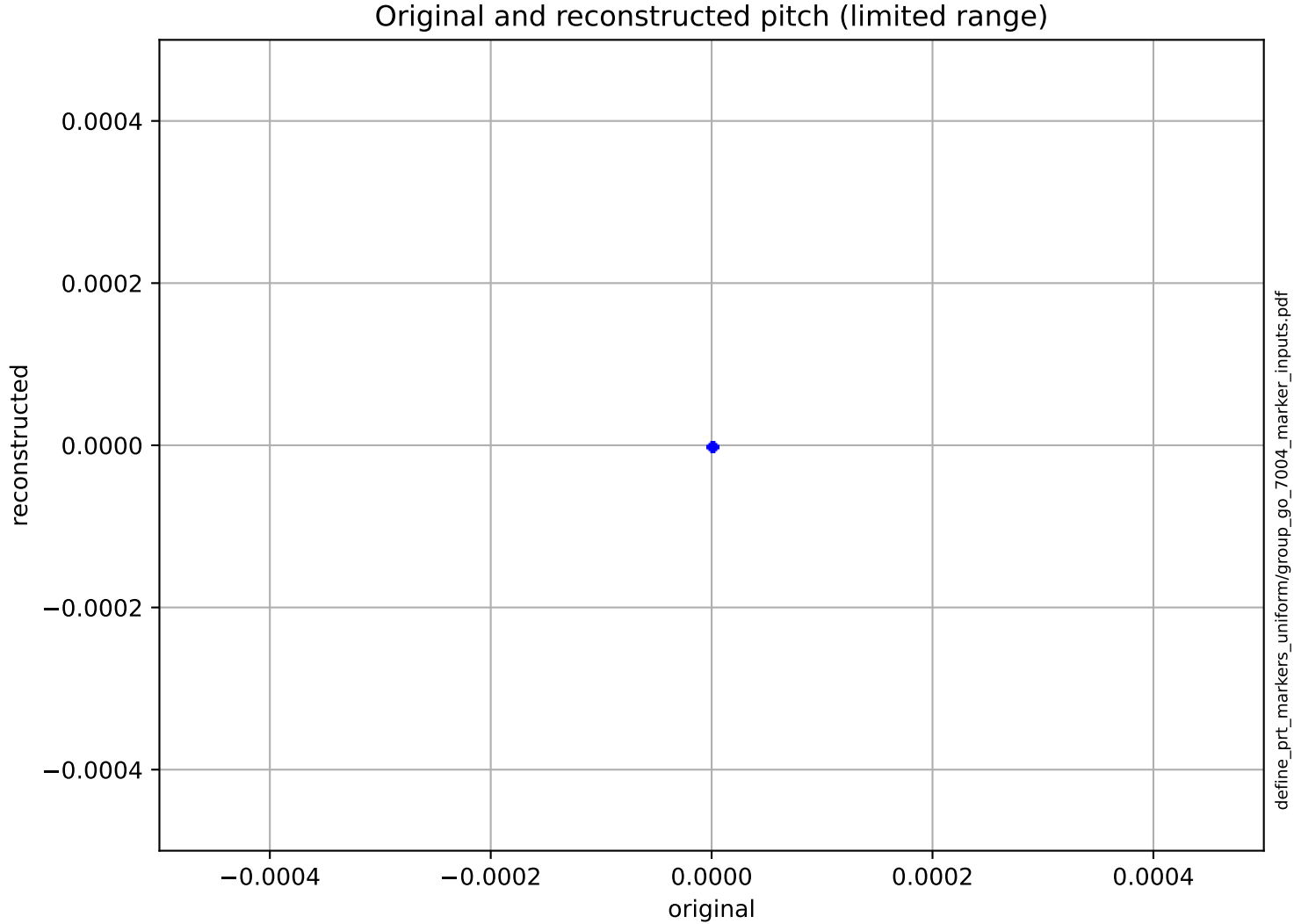
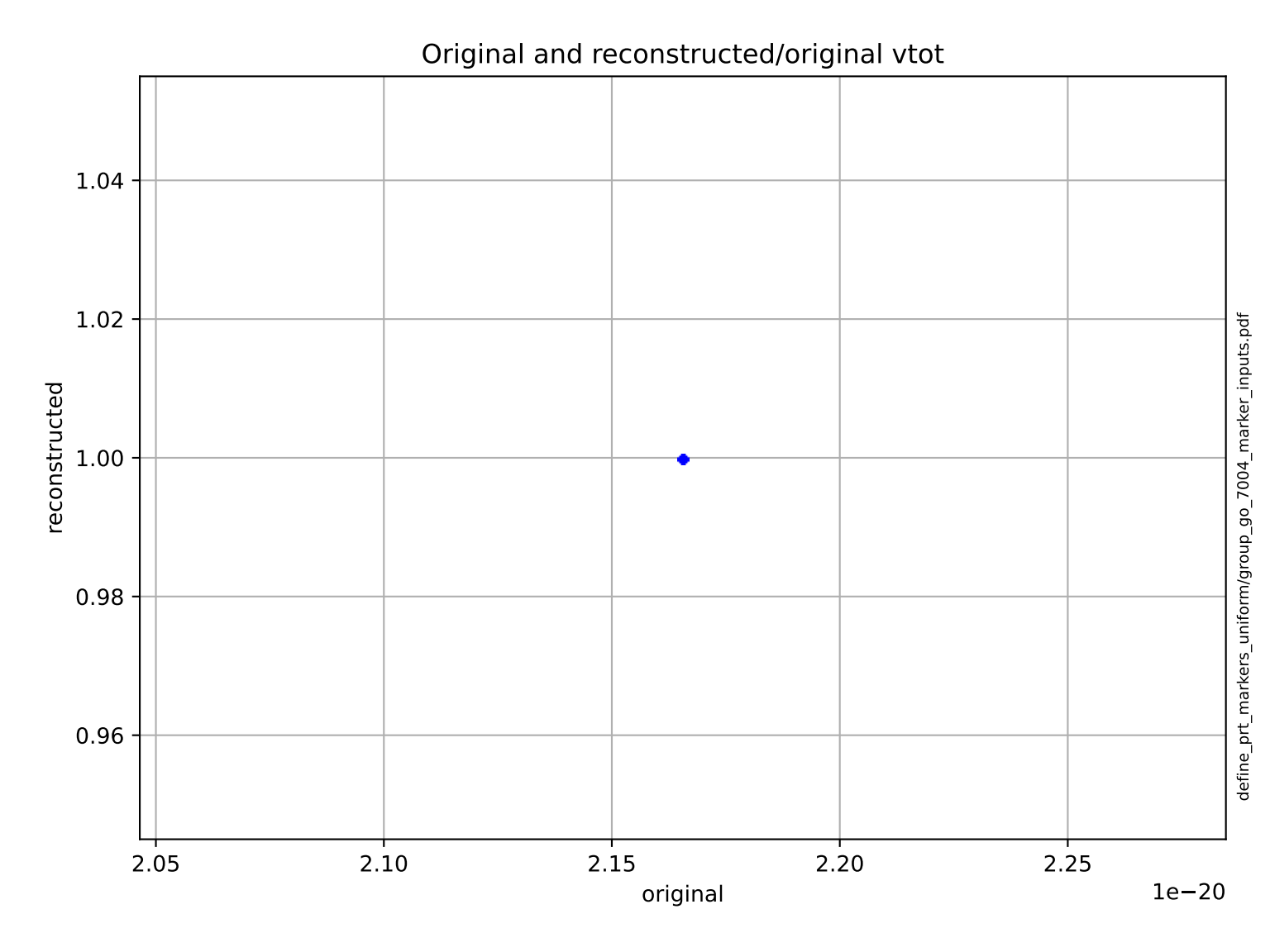

Field-line vertical angles
R near 1.30
R near 1.88
R near 2.24
10
5
0
−5
−10
−15
[degrees]
−0.75
−0.50
−0.25
0.00
0.25
0.50
0.75
Z [m]
define_prt_markers_uniform/group_go_7004_marker_inputs.pdf

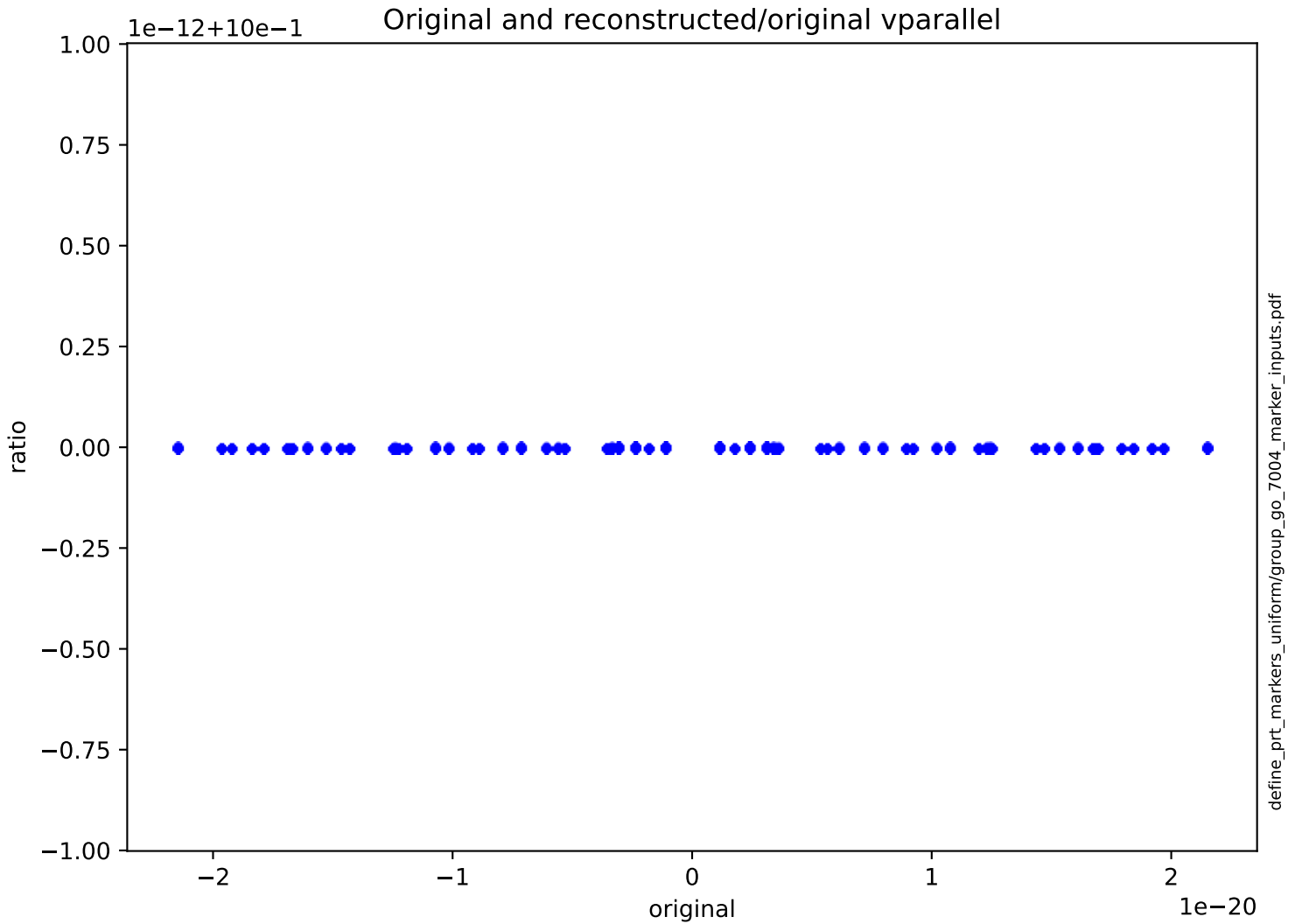

Field-line vertical angles
Z near -0.80
Z near -0.40
Z near 0
Z near +0.40
Z near +0.80
[degrees]
Rmajor [m]
15
10
5
0
−5
−10
−15
1.4
1.6
1.8
2.0
2.2
2.4
define_prt_markers_uniform/group_go_7004_marker_inputs.pdf

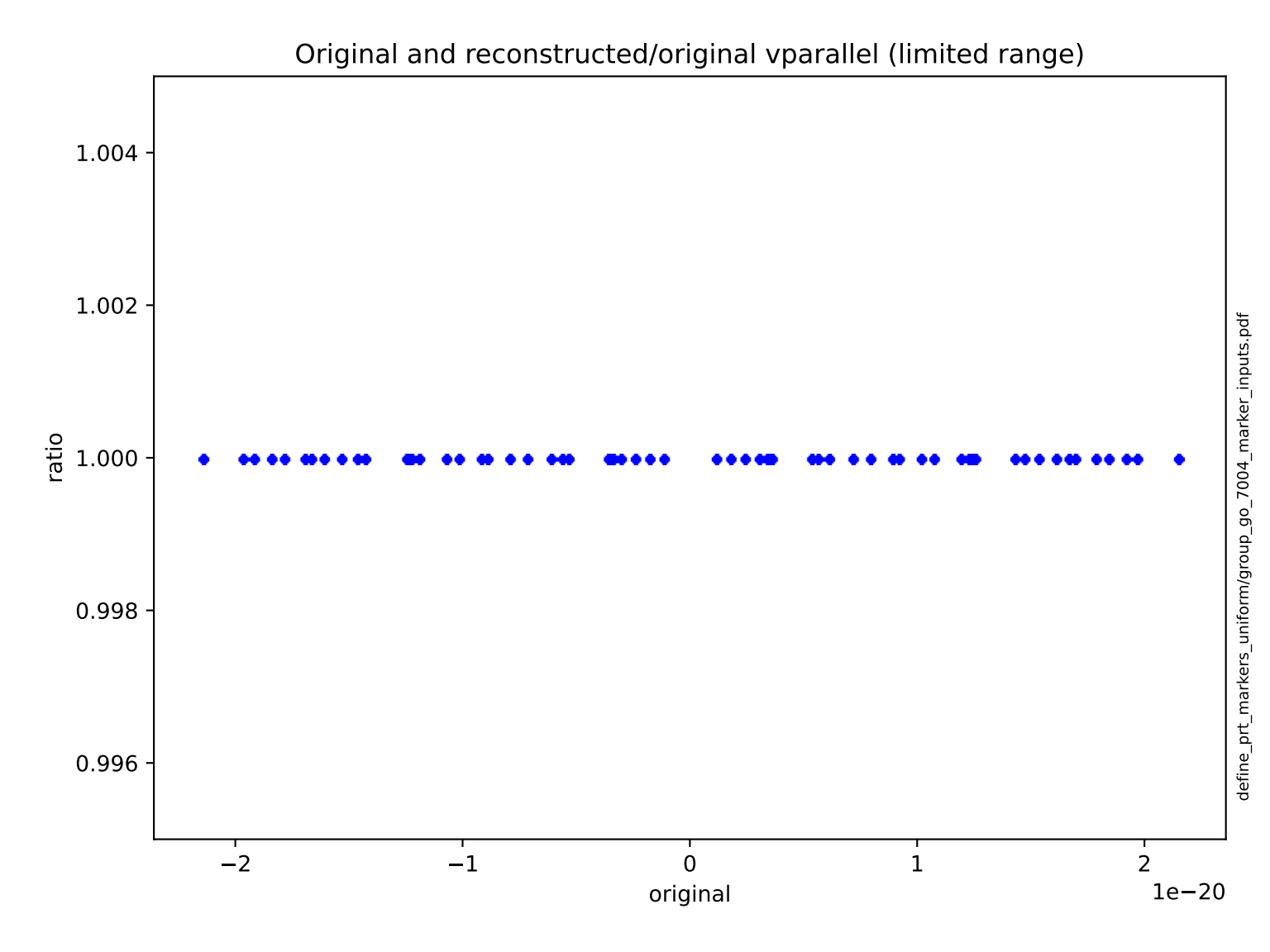

Original pitch and gyro_angles
original gyro_angle
original pitch
0
1
2
3
4
5
6
−1.00
−0.75
−0.50
−0.25
0.00
0.25
0.50
0.75
1.00
define_prt_markers_uniform/group_go_7004_marker_inputs.pdf

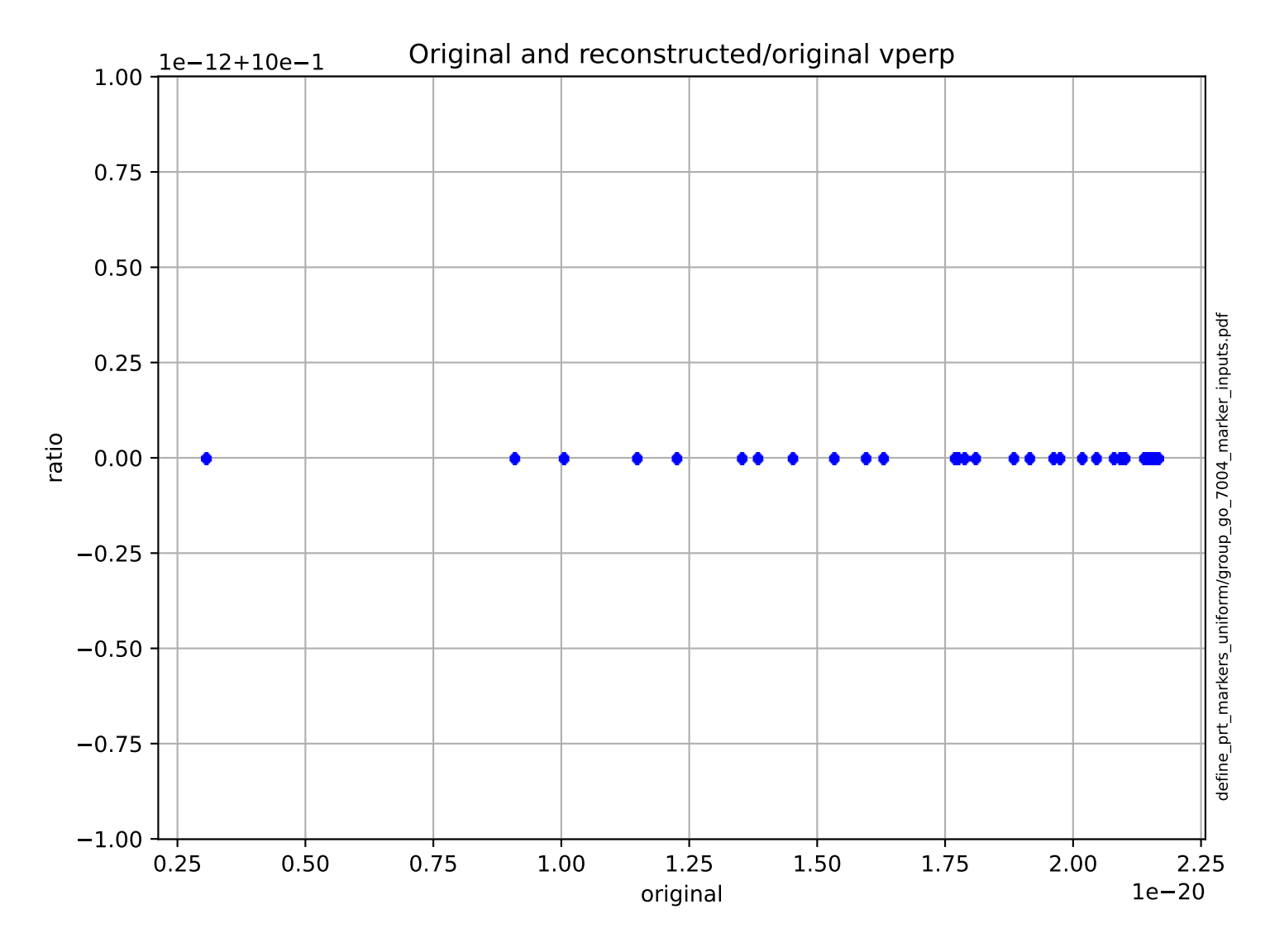

Original and reconstructed pitch
reconstructed
original
1.00
0.75
0.50
0.25
0.00
−0.25
−0.50
−0.75
−1.00
−1.00
−0.75
−0.50
−0.25
0.00
0.25
0.50
0.75
1.00
define_prt_markers_uniform/group_go_7004_marker_inputs.pdf

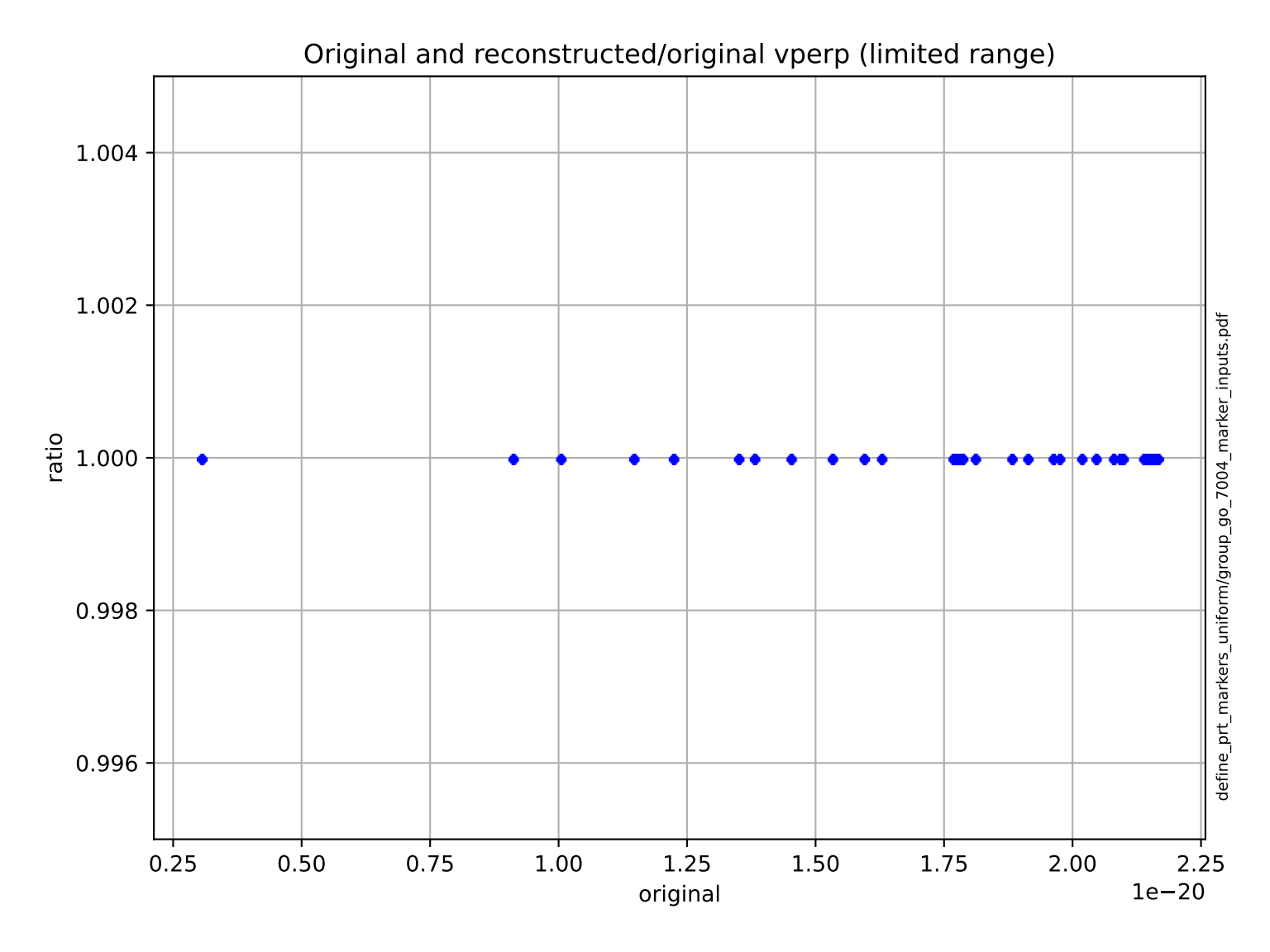

Original and reconstructed pitch (limited range)
reconstructed
original
0.0004
0.0002
0.0000
−0.0002
−0.0004
−0.0004
−0.0002
0.0000
0.0002
0.0004
define_prt_markers_uniform/group_go_7004_marker_inputs.pdf

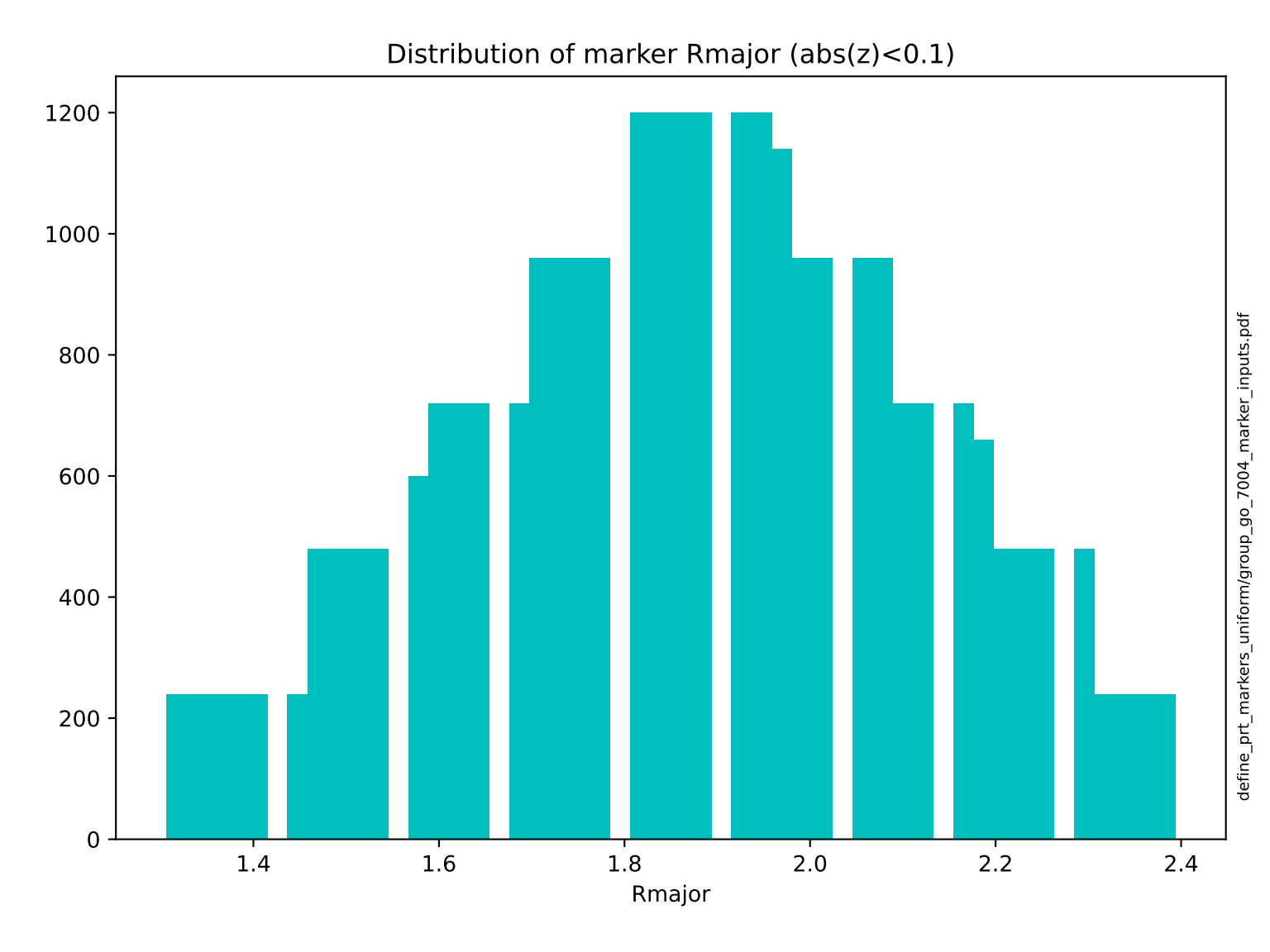

Original and reconstructed/original vtot
reconstructed
1.04
1.02
1.00
0.98
0.96
2.05
2.10
2.15
2.20
2.25
original
1e−20
define_prt_markers_uniform/group_go_7004_marker_inputs.pdf

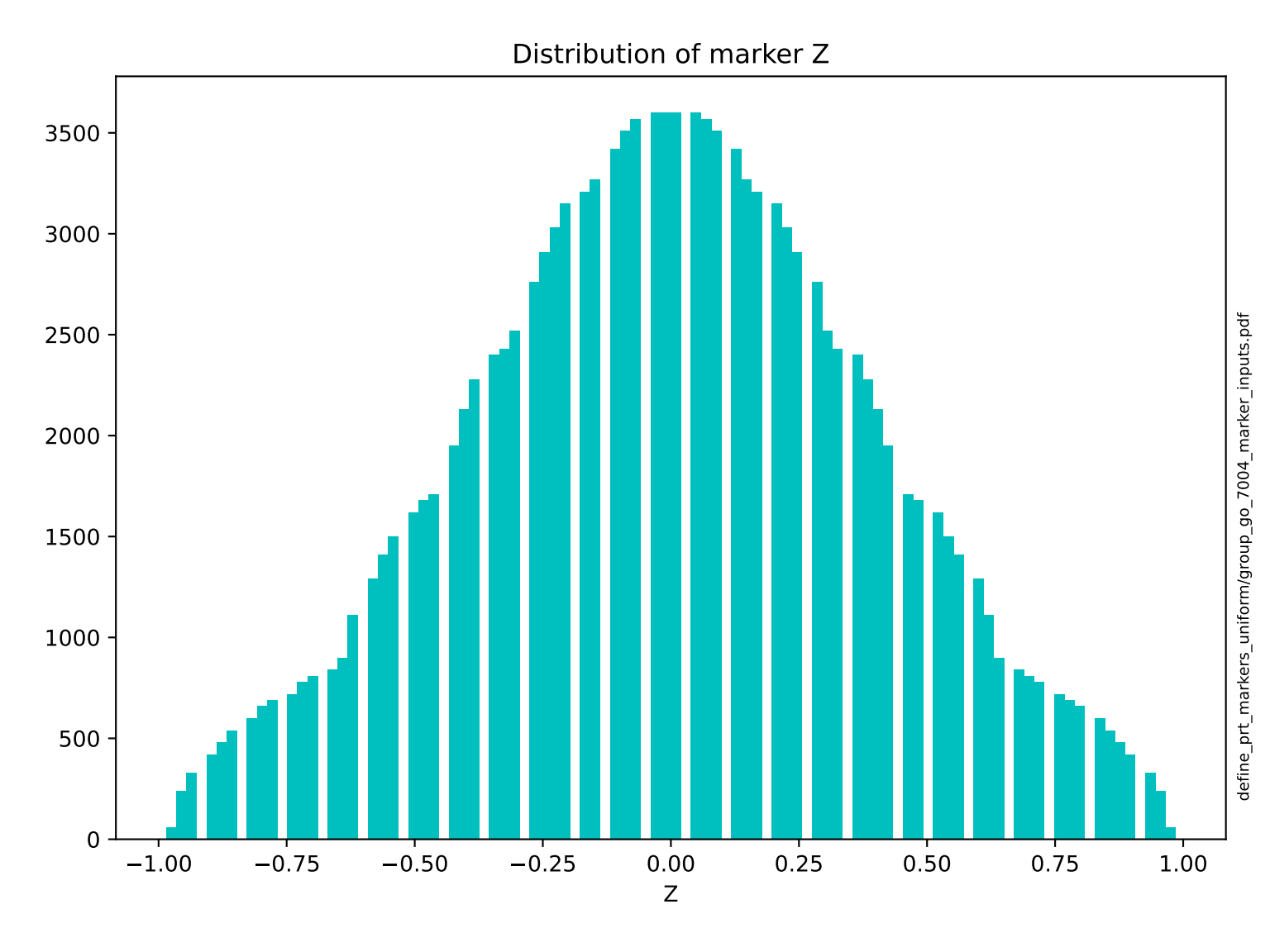

Original and reconstructed/original vparallel
1e−12+10e−1
1.00
0.75
0.50
0.25
0.00
−0.25
−0.50
−0.75
−1.00
ratio
−2
−1
0
1
2
1e−20
original
define_prt_markers_uniform/group_go_7004_marker_inputs.pdf

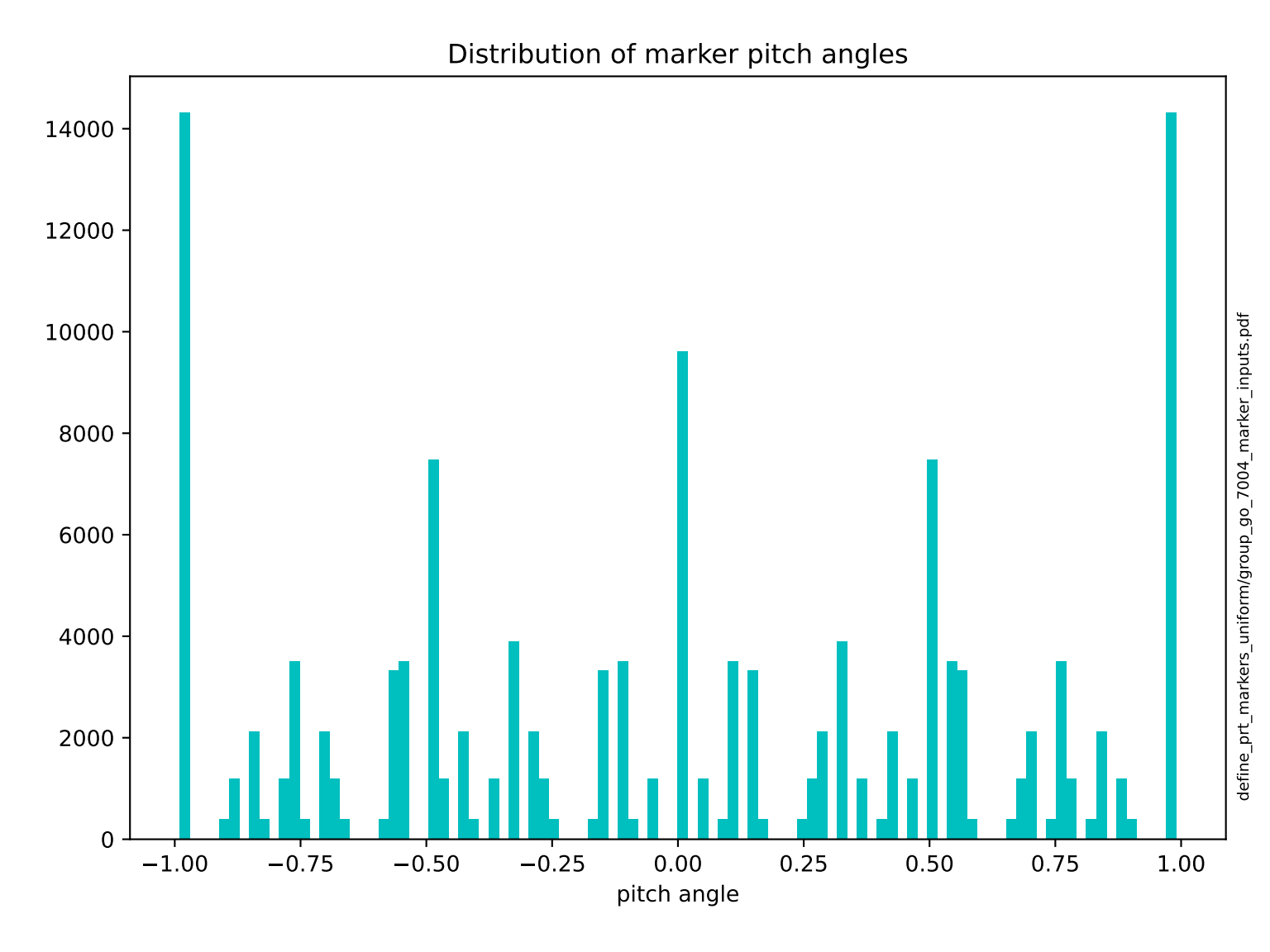

Original and reconstructed/original vparallel (limited range)
1.004
1.002
1.000
0.998
0.996
ratio
−2
−1
0
1
2
original
1e−20
define_prt_markers_uniform/group_go_7004_marker_inputs.pdf

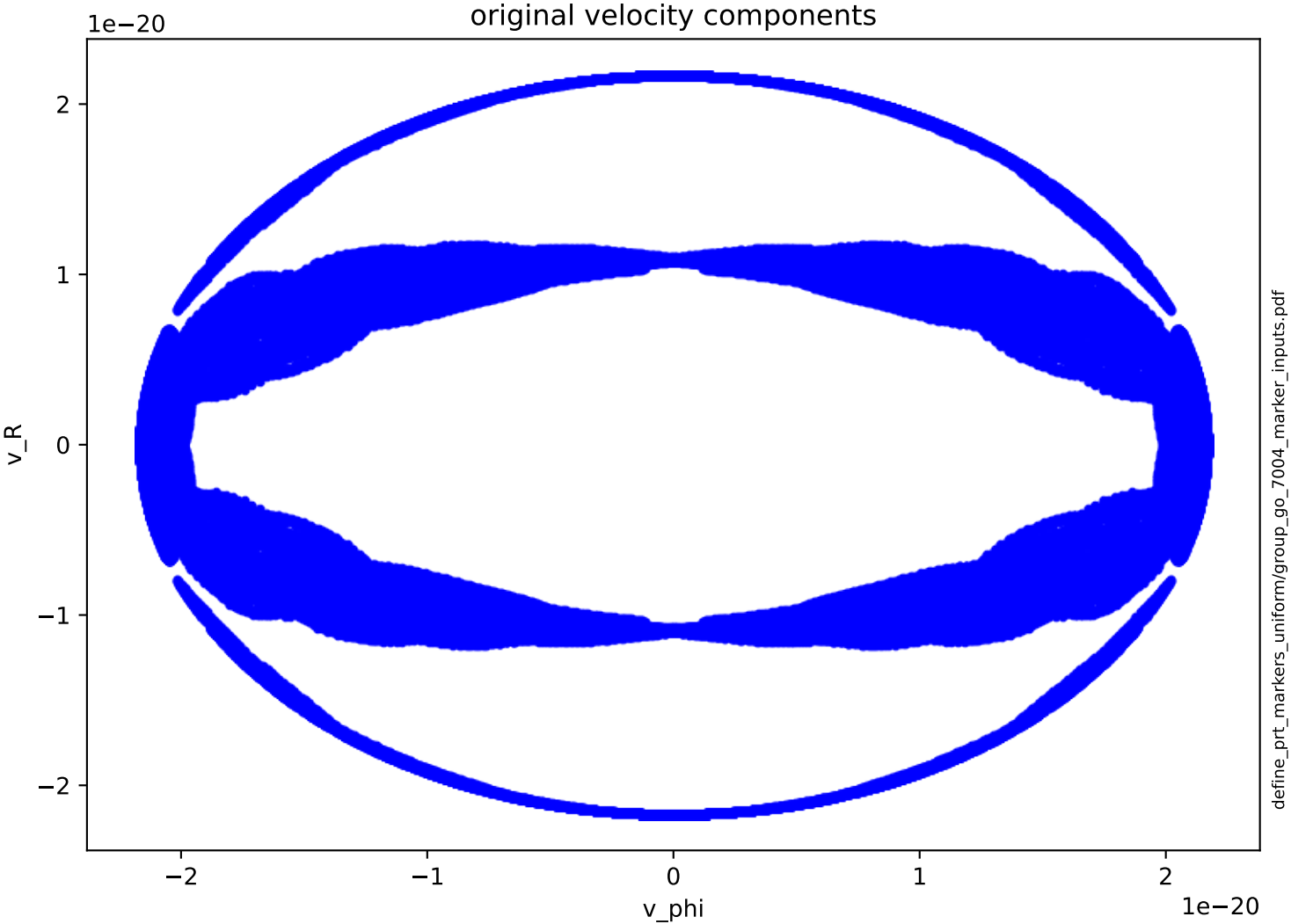

Original and reconstructed/original vperp
1e−12+10e−1
1.00
0.75
0.50
0.25
0.00
−0.25
−0.50
−0.75
−1.00
ratio
0.25
0.50
0.75
1.00
1.25
1.50
1.75
2.00
2.25
1e−20
original
define_prt_markers_uniform/group_go_7004_marker_inputs.pdf

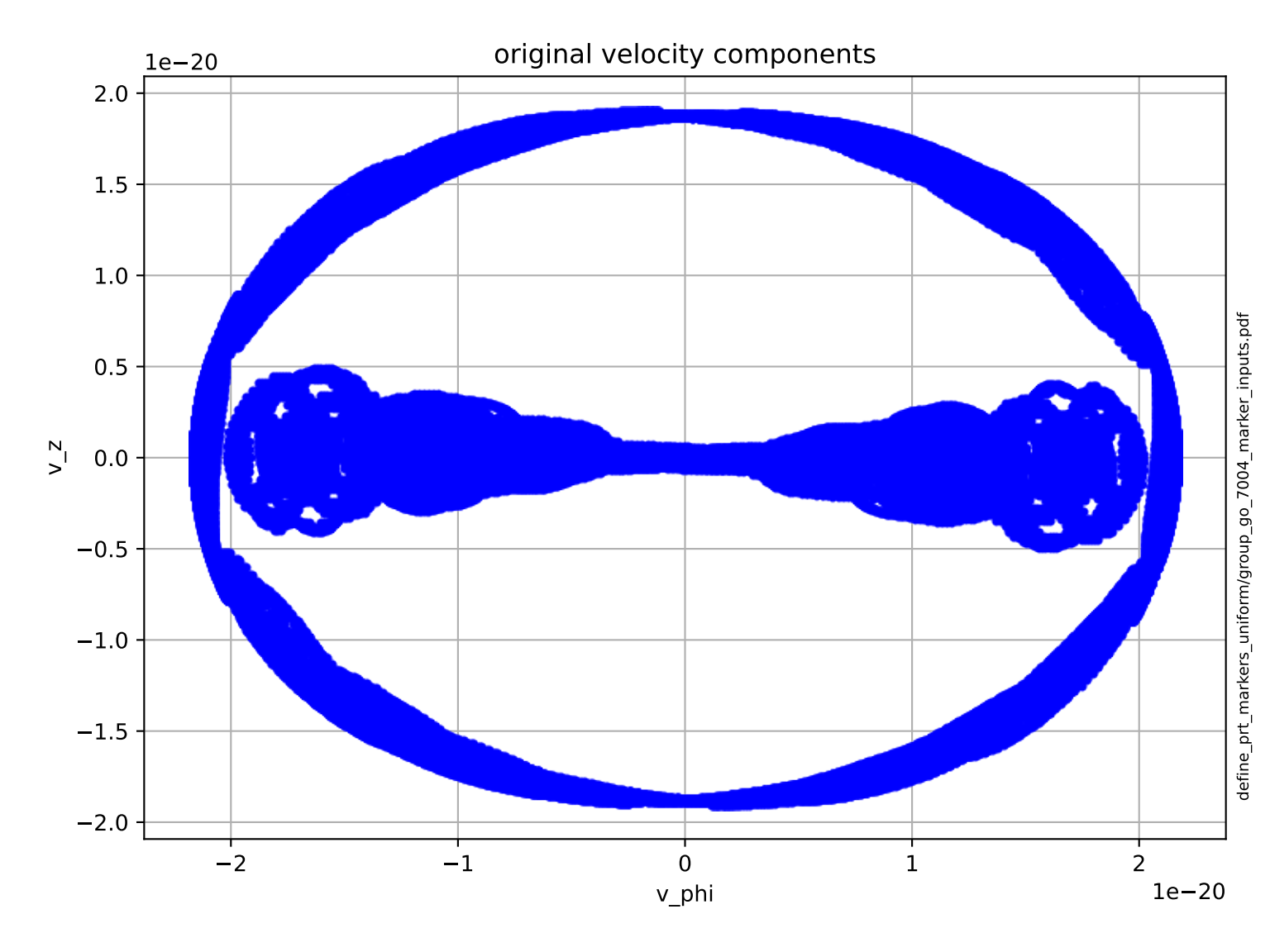

Original and reconstructed/original vperp (limited range)
1.004
1.002
1.000
0.998
0.996
ratio
0.25
0.50
0.75
1.00
1.25
1.50
1.75
2.00
2.25
original
1e−20
define_prt_markers_uniform/group_go_7004_marker_inputs.pdf

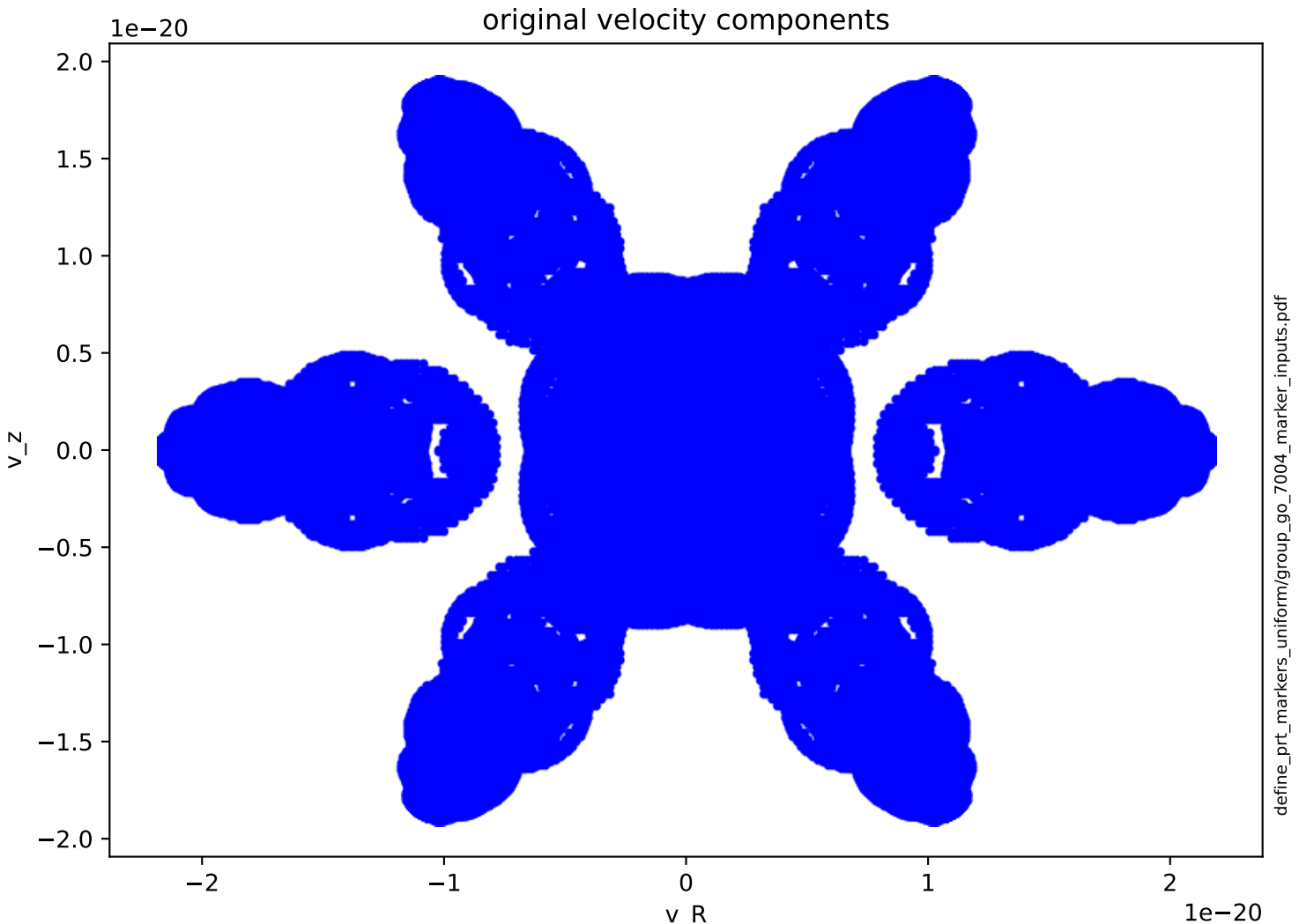

Distribution of marker Rmajor (abs(z)<0.1)
1200
1000
800
600
400
200
0
1.4
1.6
1.8
2.0
2.2
2.4
Rmajor
define_prt_markers_uniform/group_go_7004_marker_inputs.pdf

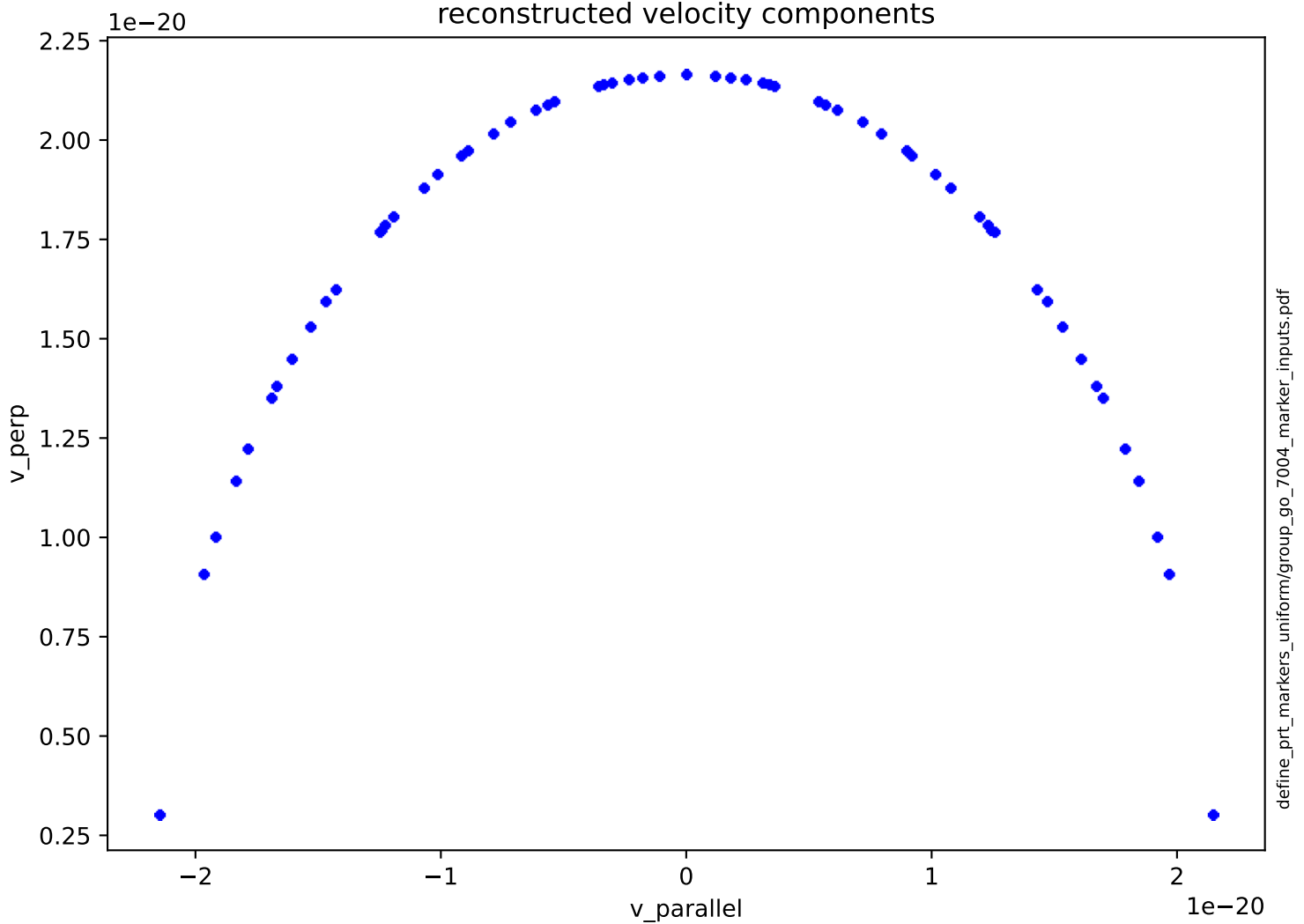

Distribution of marker Z
3500
3000
2500
2000
1500
1000
500
0
−1.00
−0.75
−0.50
−0.25
0.00
0.25
0.50
0.75
1.00
Z
define_prt_markers_uniform/group_go_7004_marker_inputs.pdf

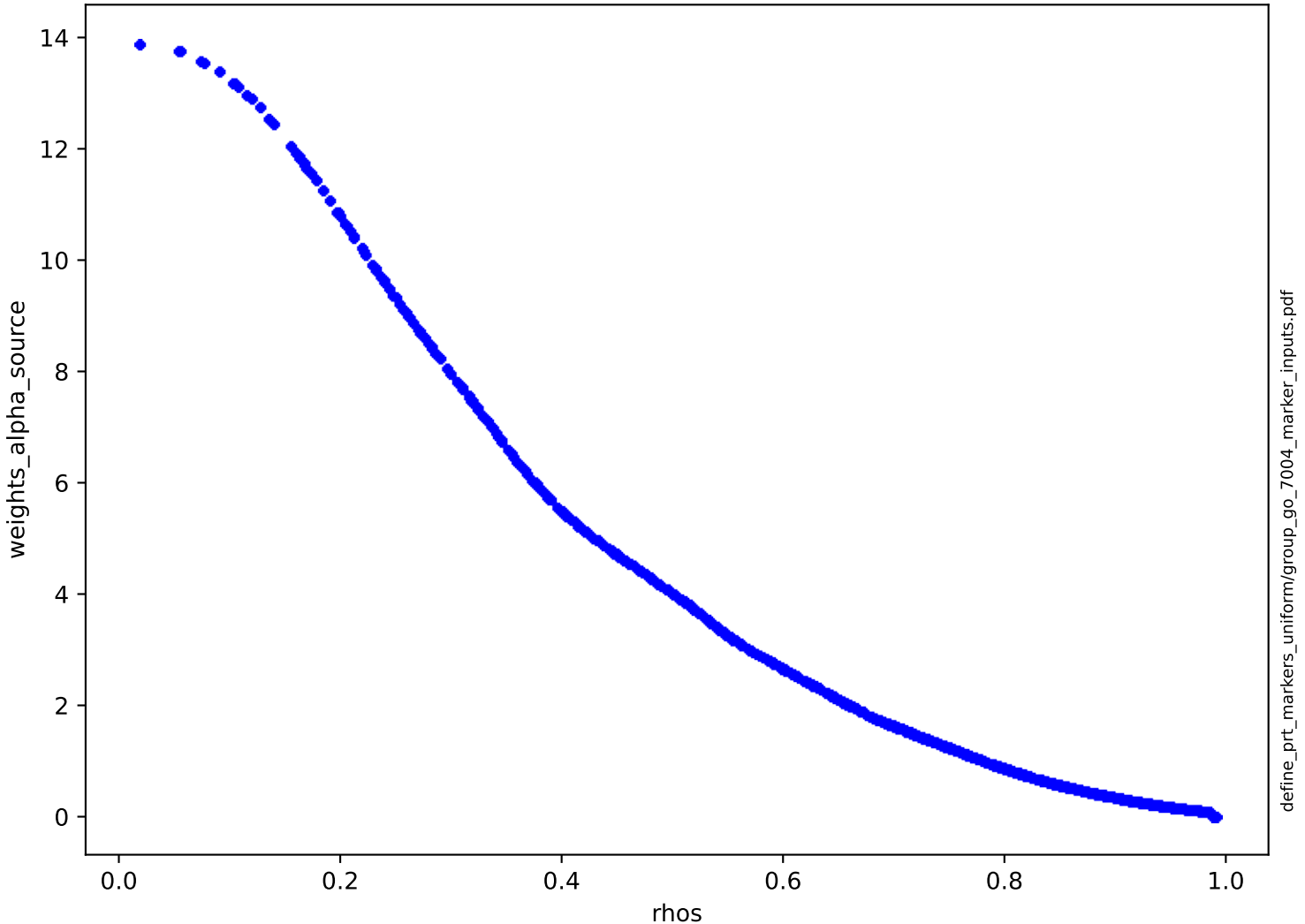

Distribution of marker pitch angles
14000
12000
10000
8000
6000
4000
2000
0
−1.00
−0.75
−0.50
−0.25
0.00
0.25
0.50
0.75
1.00
pitch angle
define_prt_markers_uniform/group_go_7004_marker_inputs.pdf

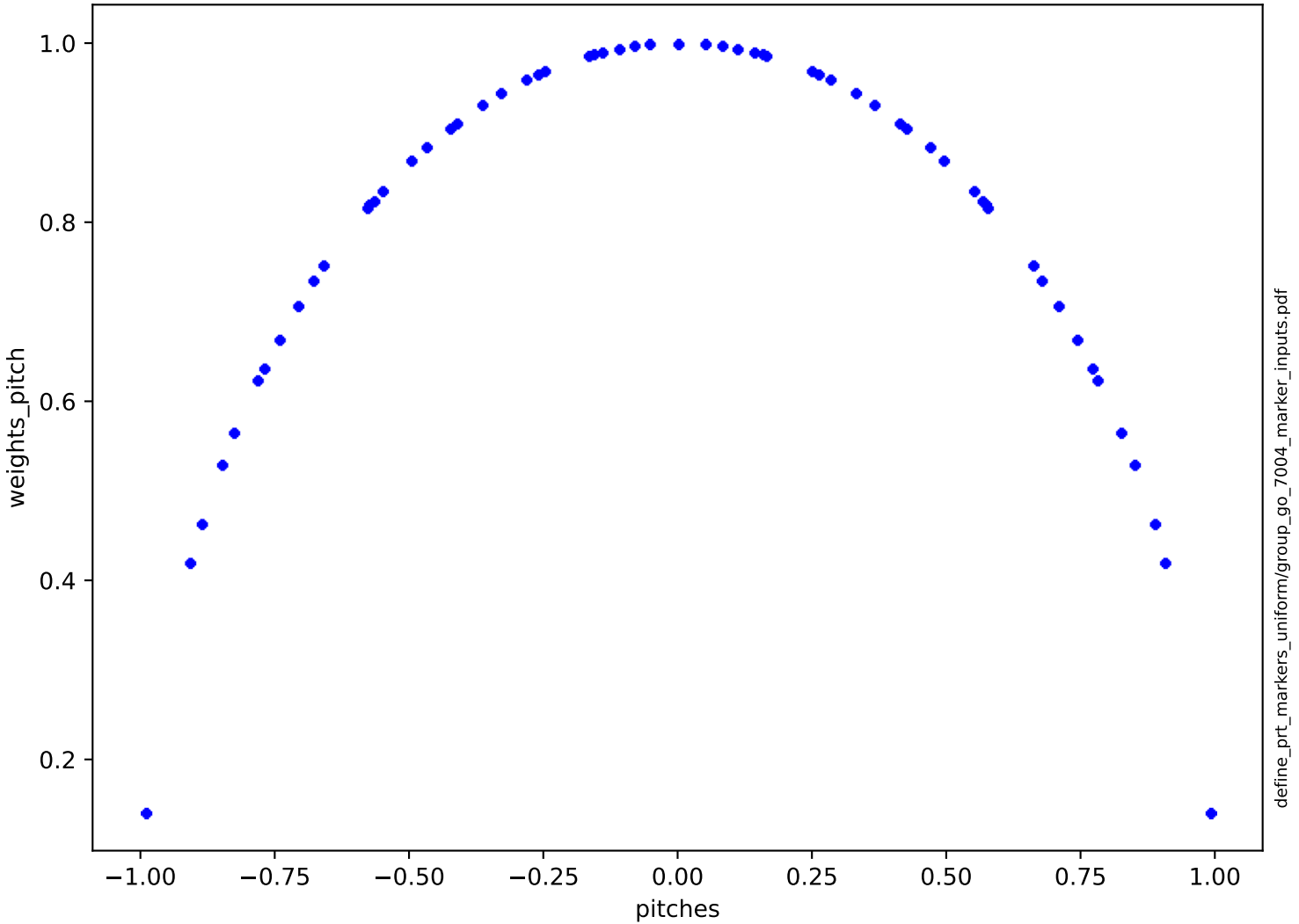

original velocity components
1e−20
2
1
0
−1
−2
v_R
−2
−1
0
1
2
v_phi
1e−20
define_prt_markers_uniform/group_go_7004_marker_inputs.pdf

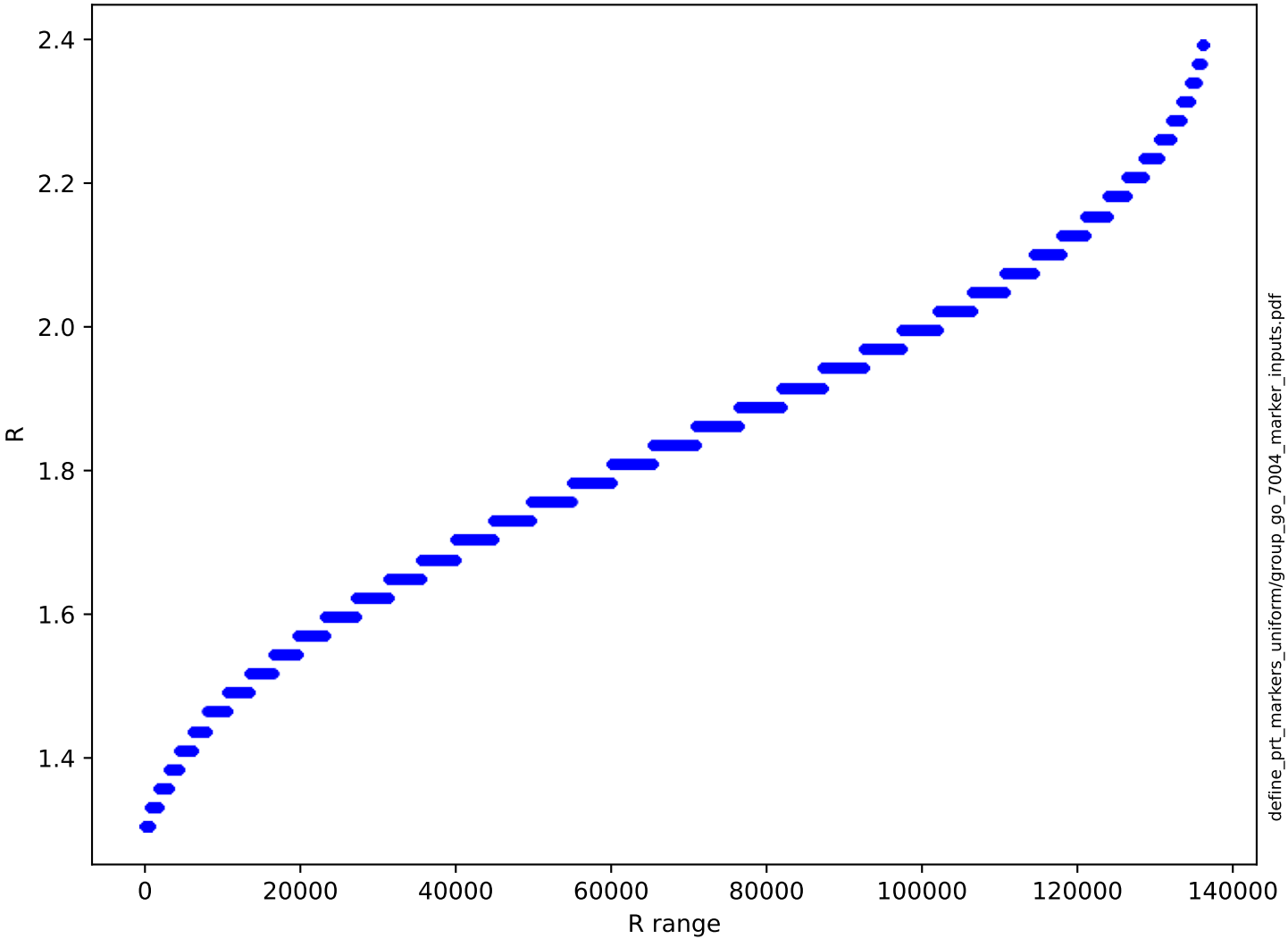

original velocity components
1e−20
2.0
1.5
1.0
0.5
0.0
−0.5
−1.0
−1.5
−2.0
v_z
−2
−1
0
1
2
v_phi
1e−20
define_prt_markers_uniform/group_go_7004_marker_inputs.pdf

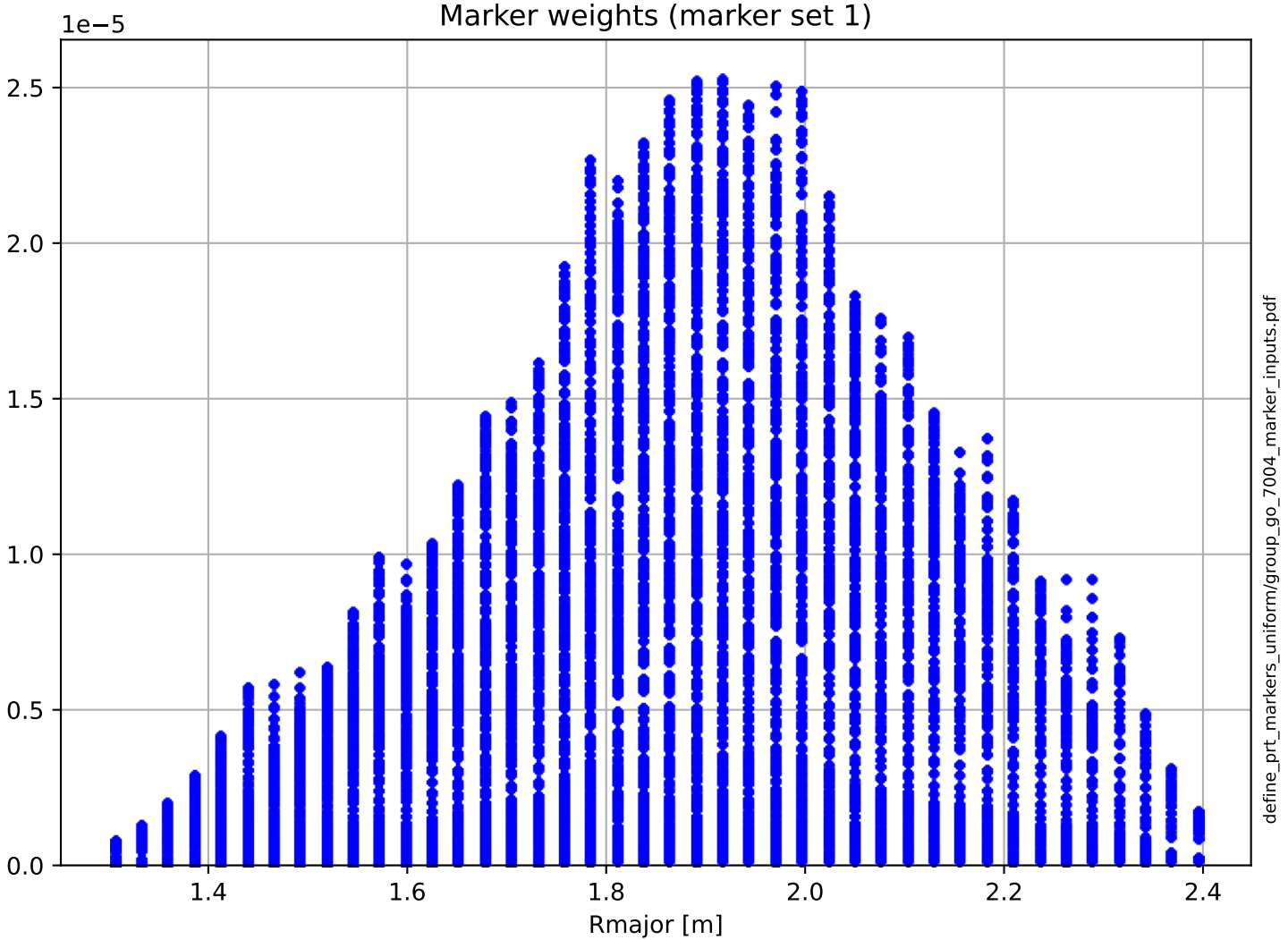

original velocity components
1e−20
2.0
1.5
1.0
0.5
0.0
−0.5
−1.0
−1.5
−2.0
v_z
−2
−1
0
1
2
v_R
1e−20
define_prt_markers_uniform/group_go_7004_marker_inputs.pdf

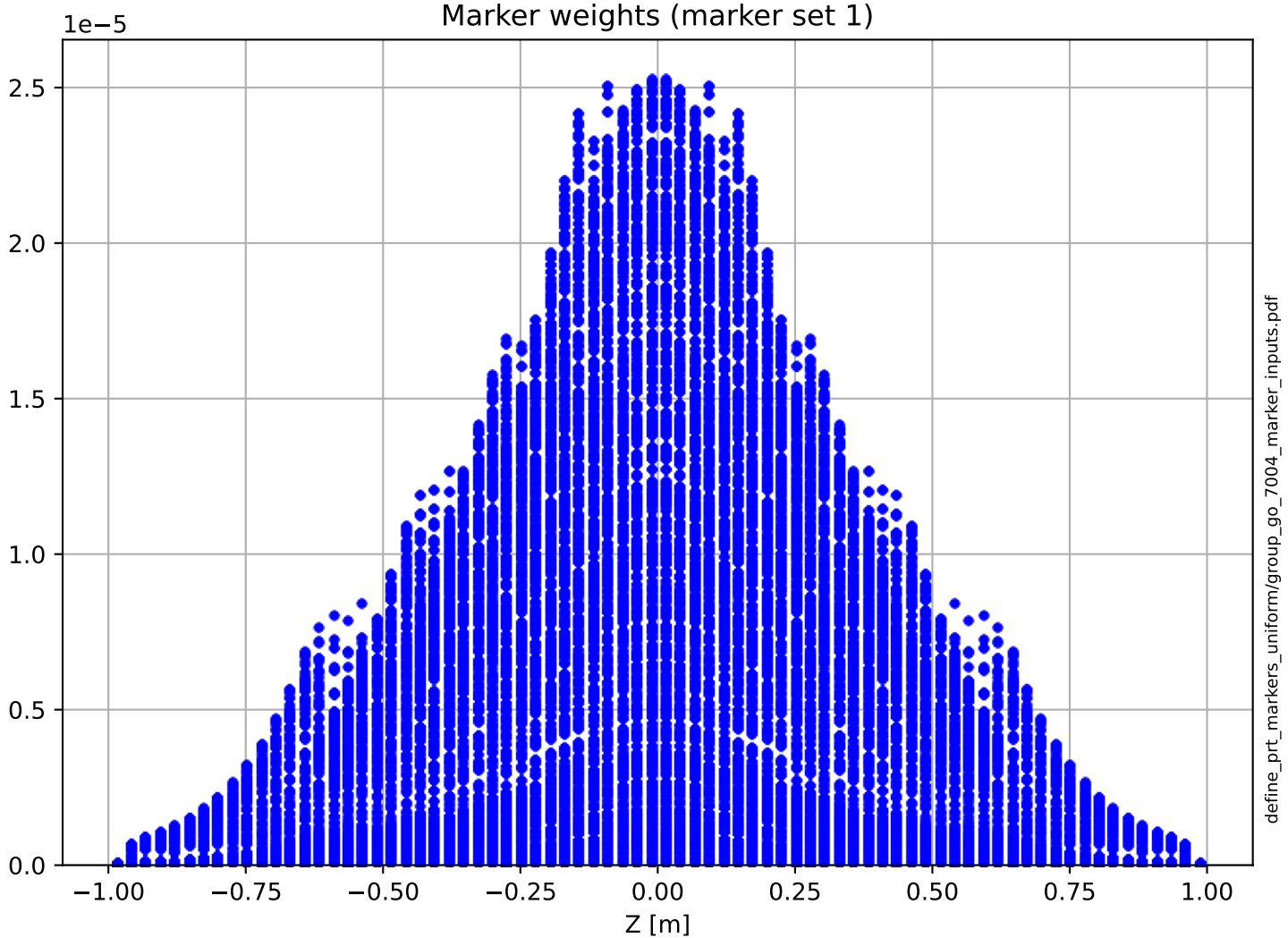

reconstructed velocity components
1e−20
2.25
2.00
1.75
1.50
1.25
1.00
0.75
0.50
0.25
v_perp
−2
−1
0
1
2
v_parallel
1e−20
define_prt_markers_uniform/group_go_7004_marker_inputs.pdf

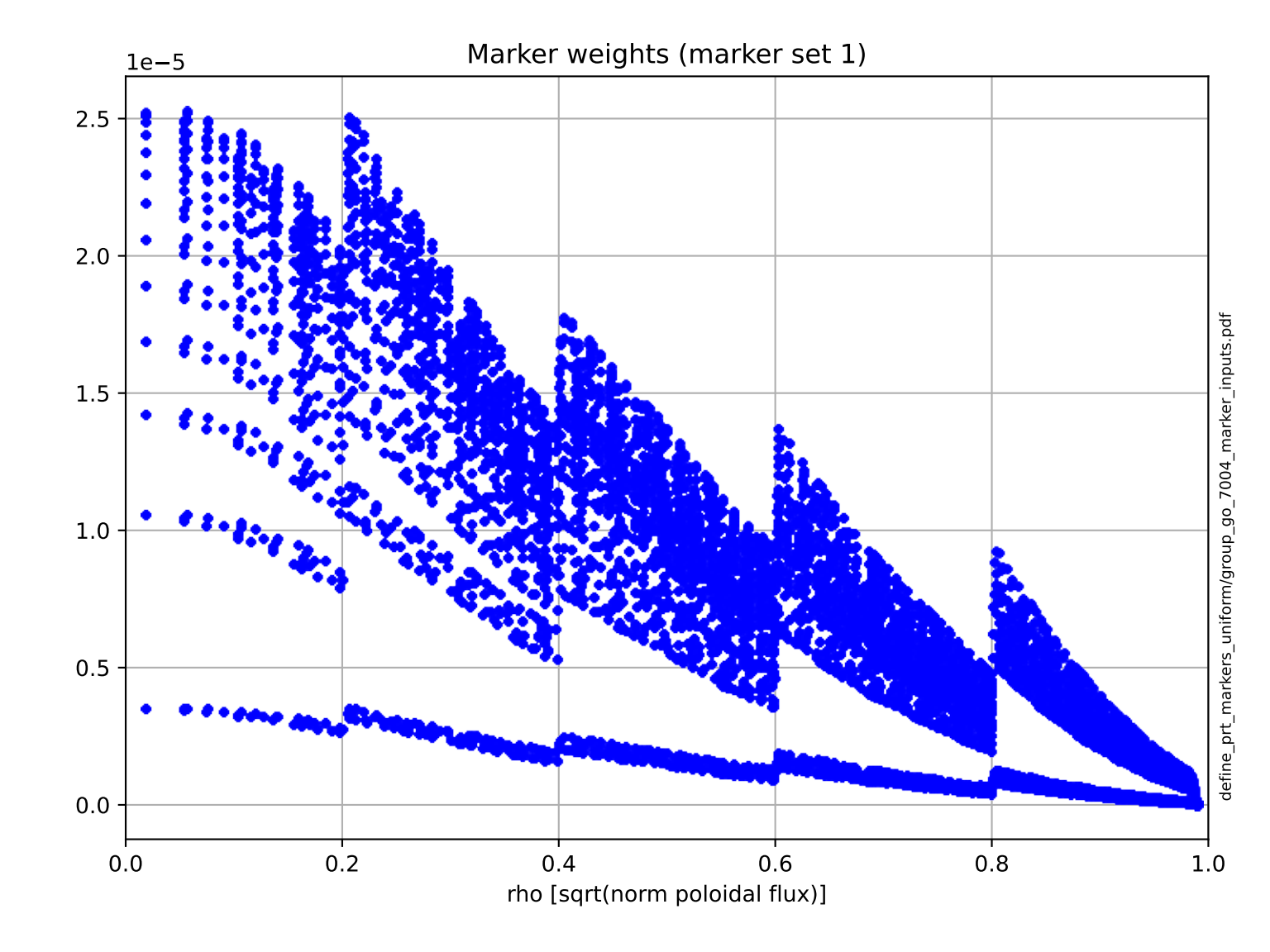

14
12
10
8
6
4
2
0
weights_alpha_source
0.0
0.2
0.4
0.6
0.8
1.0
rhos
define_prt_markers_uniform/group_go_7004_marker_inputs.pdf

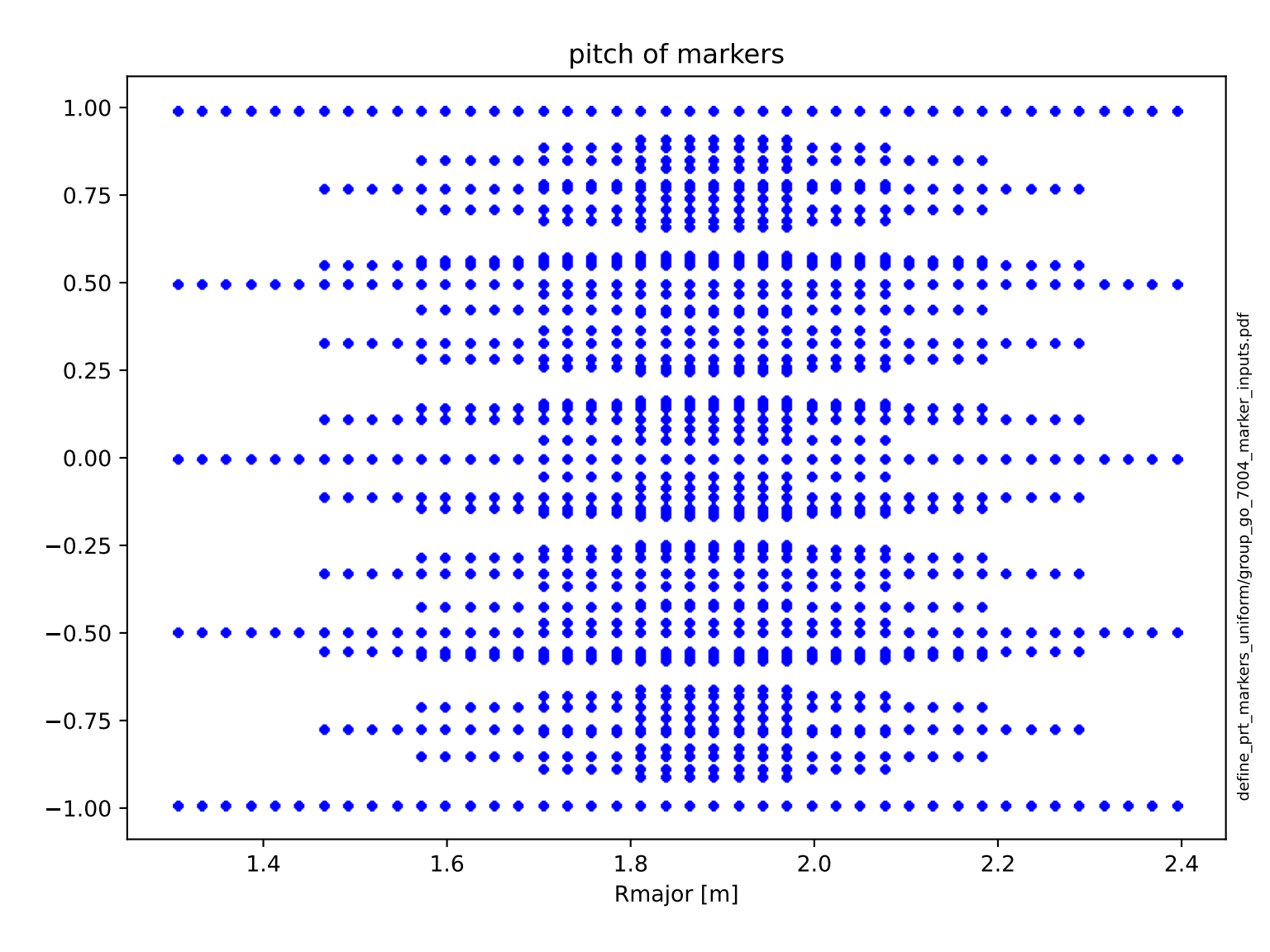

1.0
0.8
0.6
0.4
0.2
weights_pitch
−1.00
−0.75
−0.50
−0.25
0.00
0.25
0.50
0.75
1.00
pitches
define_prt_markers_uniform/group_go_7004_marker_inputs.pdf

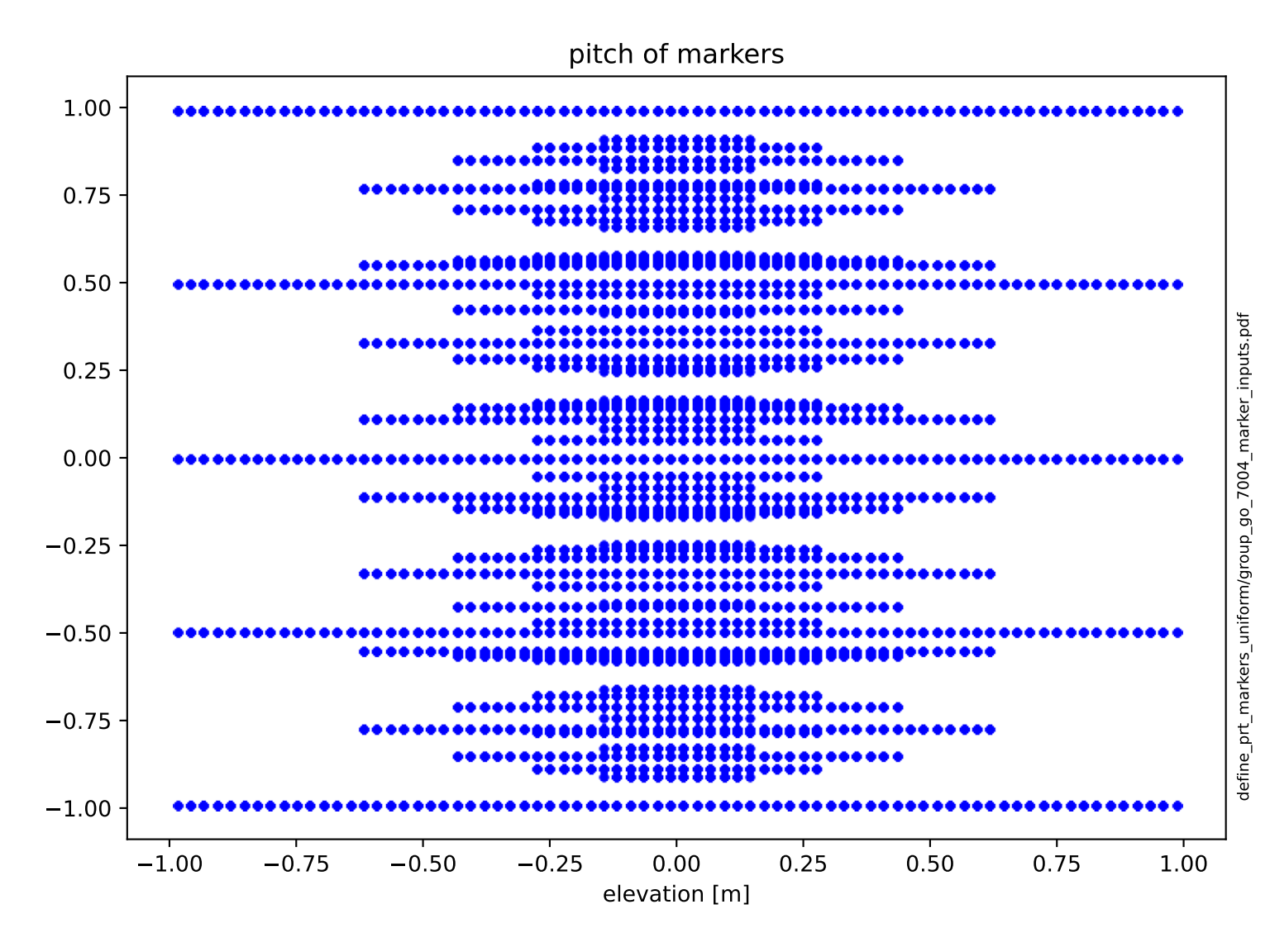

2.4
2.2
2.0
1.8
1.6
1.4
R
0
20000
40000
60000
80000
100000
120000
140000
R range
define_prt_markers_uniform/group_go_7004_marker_inputs.pdf

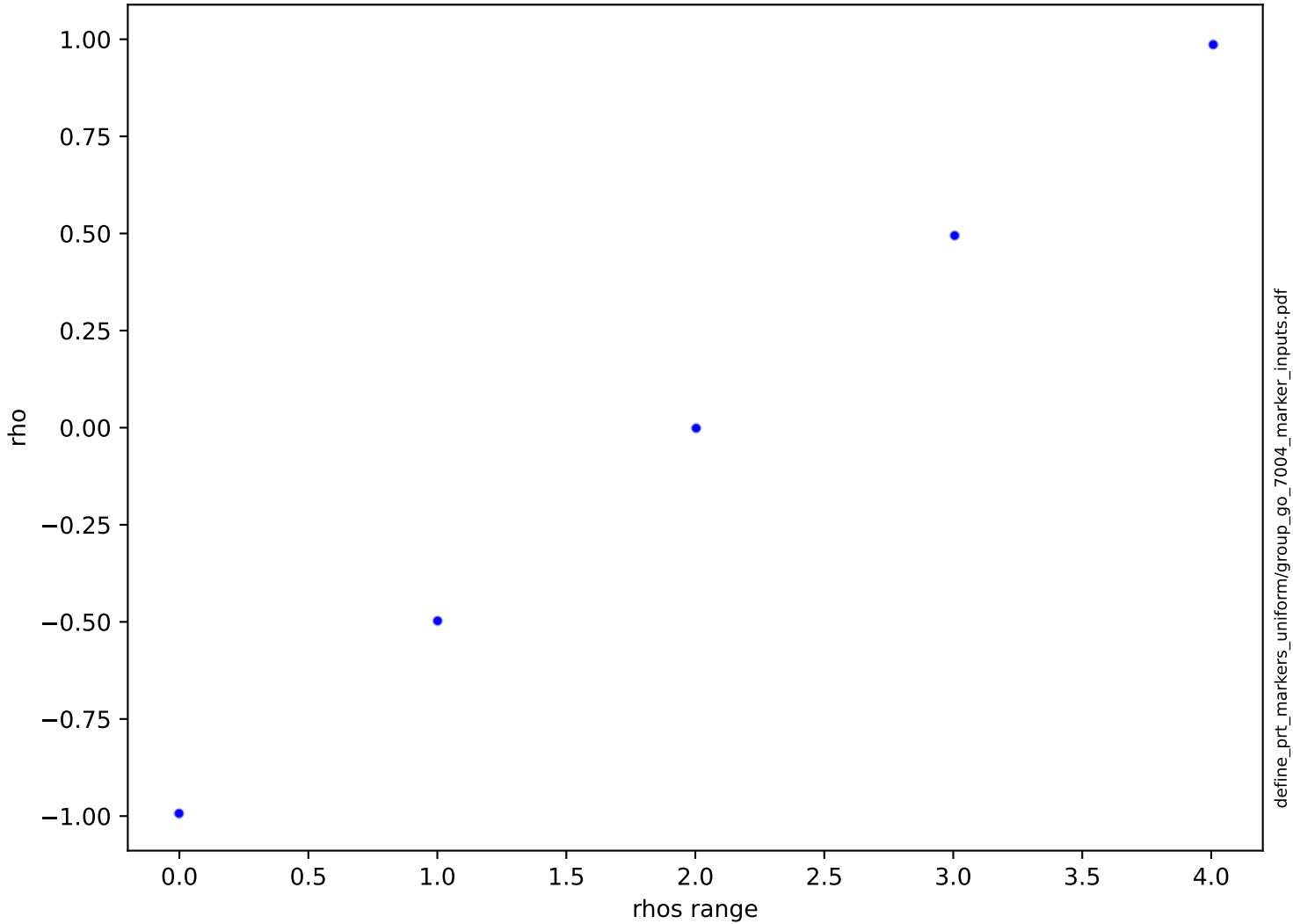

Marker weights (marker set 1)
1e−5
2.5
2.0
1.5
1.0
0.5
0.0
1.4
1.6
1.8
2.0
2.2
2.4
Rmajor [m]
define_prt_markers_uniform/group_go_7004_marker_inputs.pdf

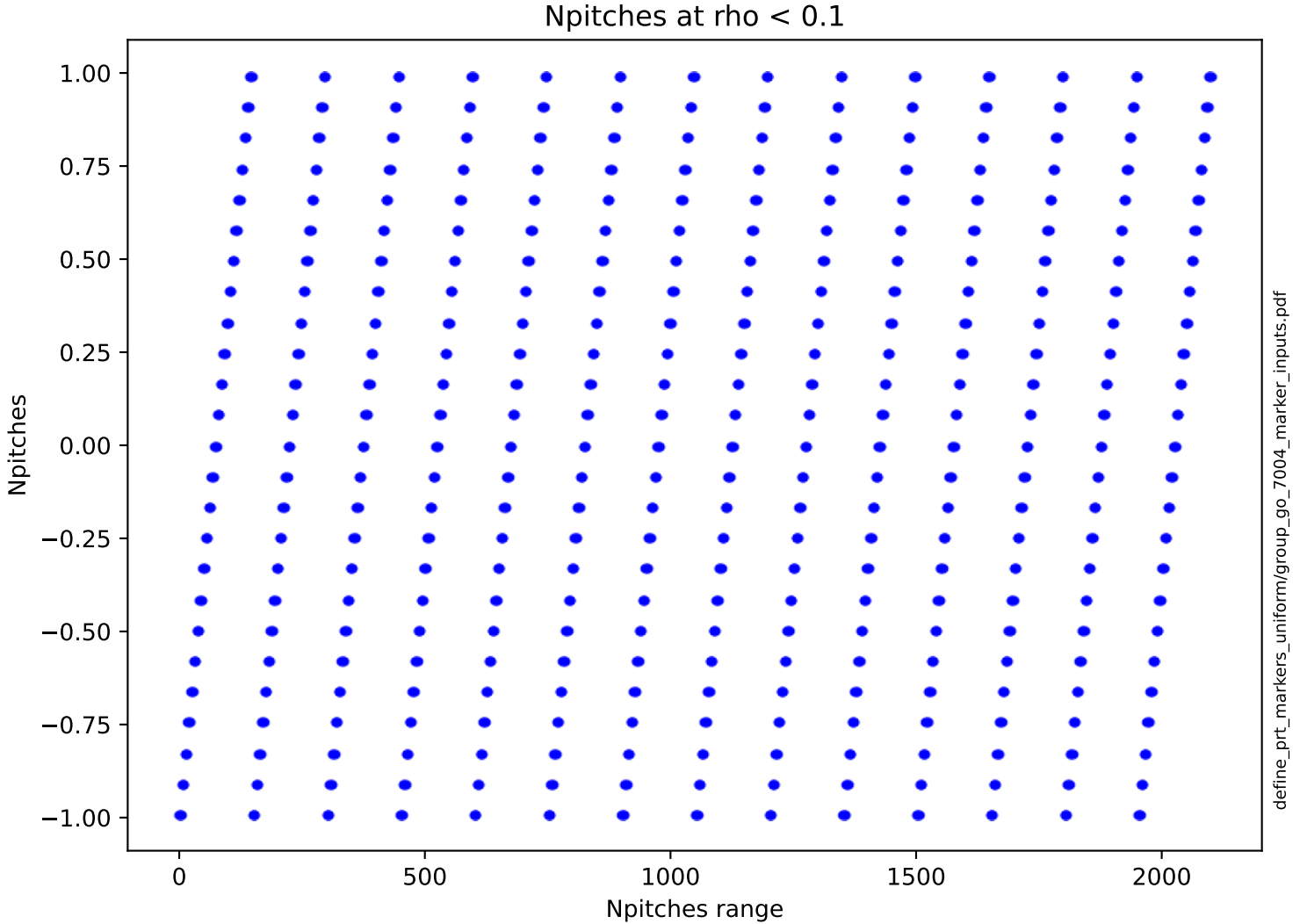

Marker weights (marker set 1)
1e−5
2.5
2.0
1.5
1.0
0.5
0.0
−1.00
−0.75
−0.50
−0.25
0.00
0.25
0.50
0.75
1.00
Z [m]
define_prt_markers_uniform/group_go_7004_marker_inputs.pdf

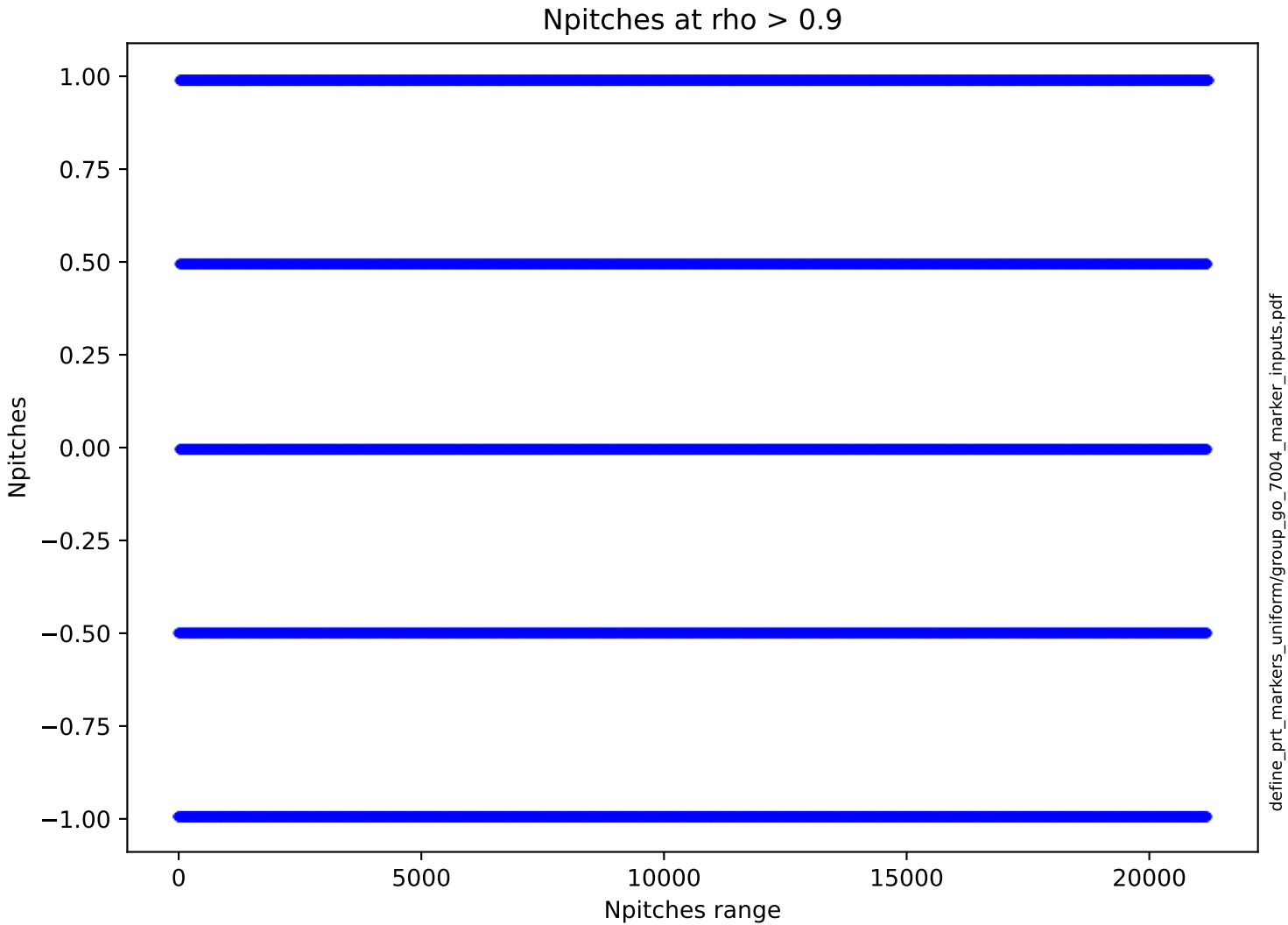

Marker weights (marker set 1)
1e−5
2.5
2.0
1.5
1.0
0.5
0.0
0.0
0.2
0.4
0.6
0.8
1.0
rho [sqrt(norm poloidal flux)]
define_prt_markers_uniform/group_go_7004_marker_inputs.pdf

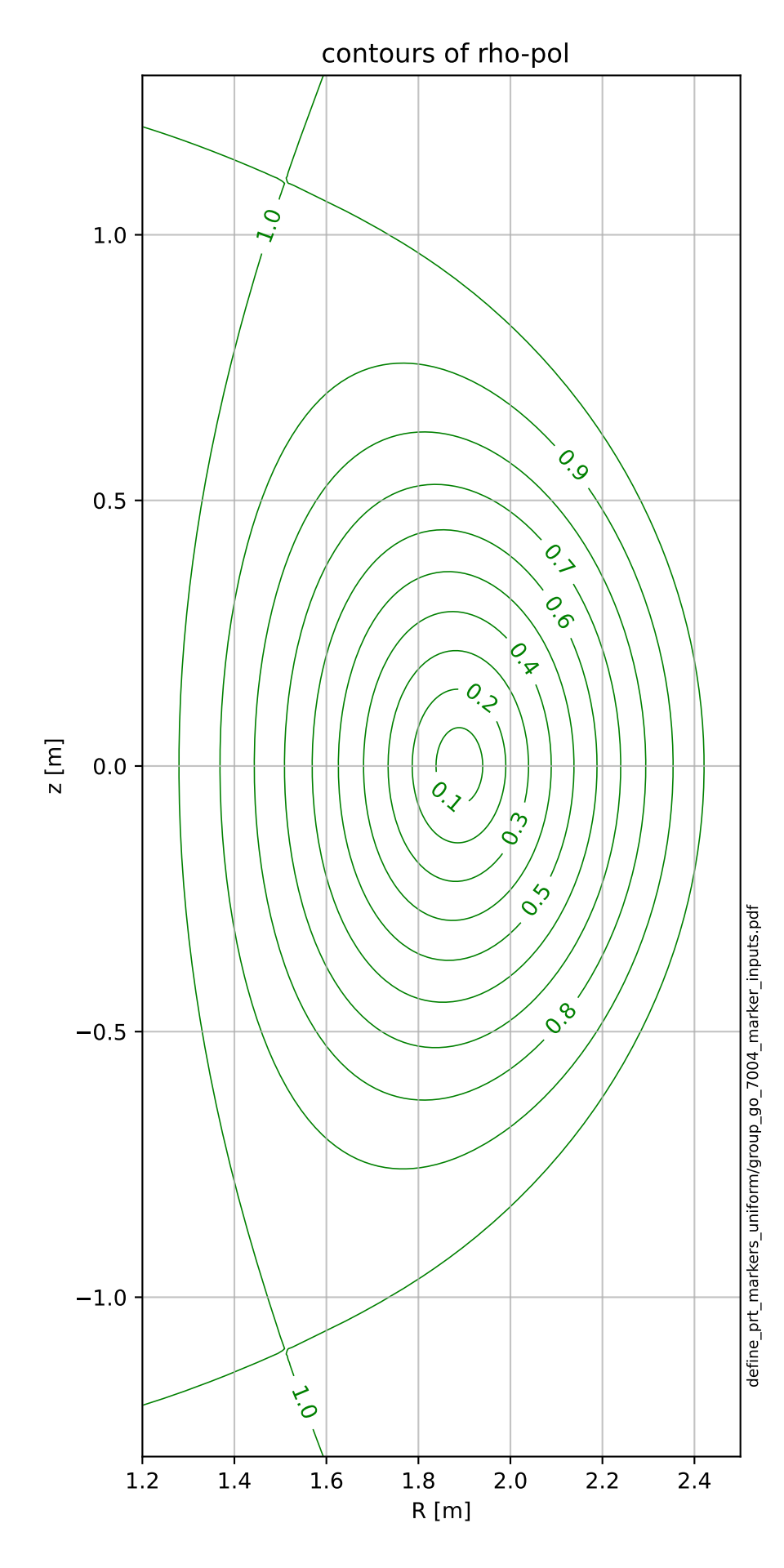

pitch of markers
1.00
0.75
0.50
0.25
0.00
−0.25
−0.50
−0.75
−1.00
1.4
1.6
1.8
2.0
2.2
2.4
Rmajor [m]
define_prt_markers_uniform/group_go_7004_marker_inputs.pdf

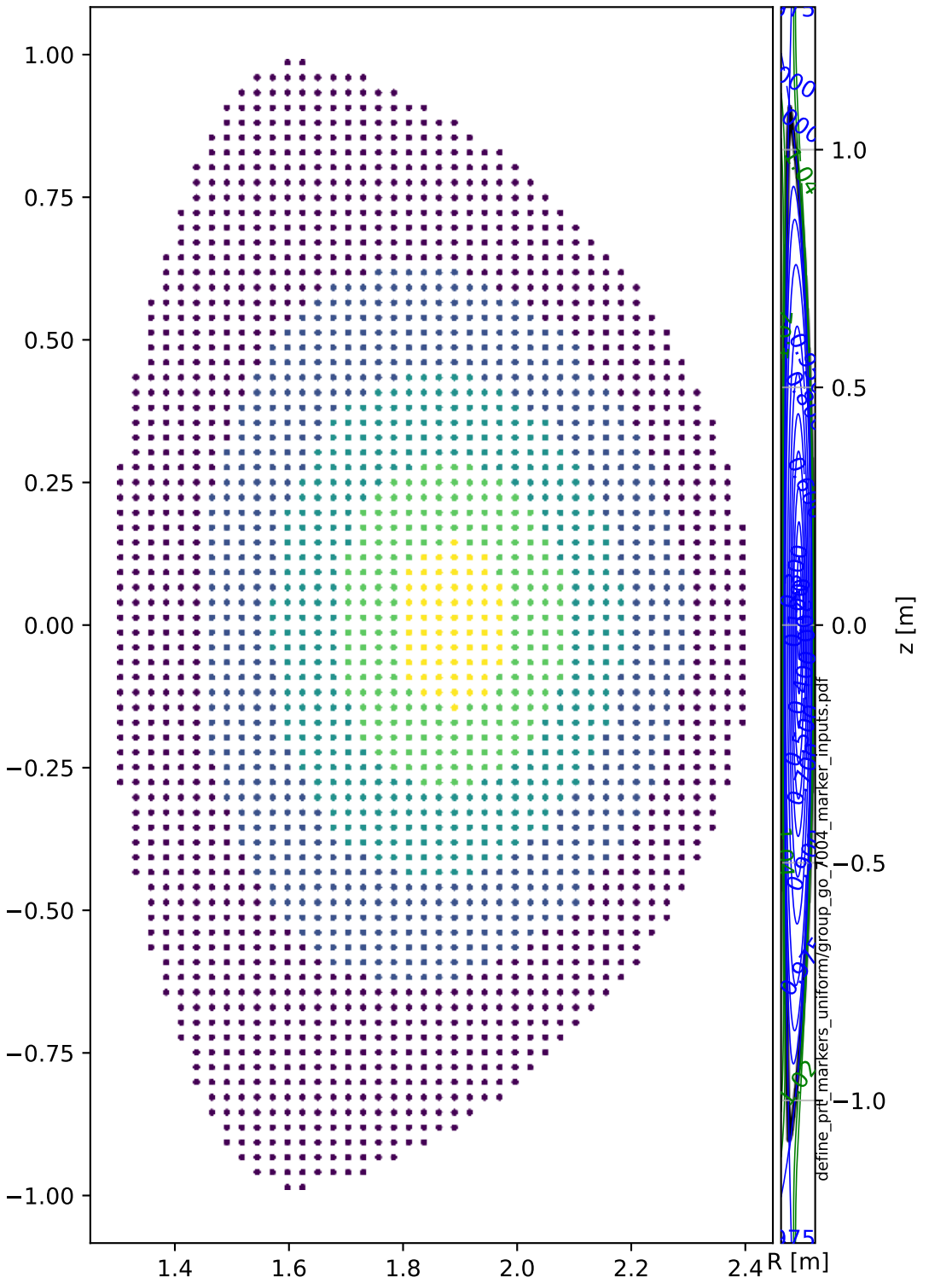

pitch of markers
1.00
0.75
0.50
0.25
0.00
−0.25
−0.50
−0.75
−1.00
−1.00
−0.75
−0.50
−0.25
0.00
0.25
0.50
0.75
1.00
elevation [m]
define_prt_markers_uniform/group_go_7004_marker_inputs.pdf

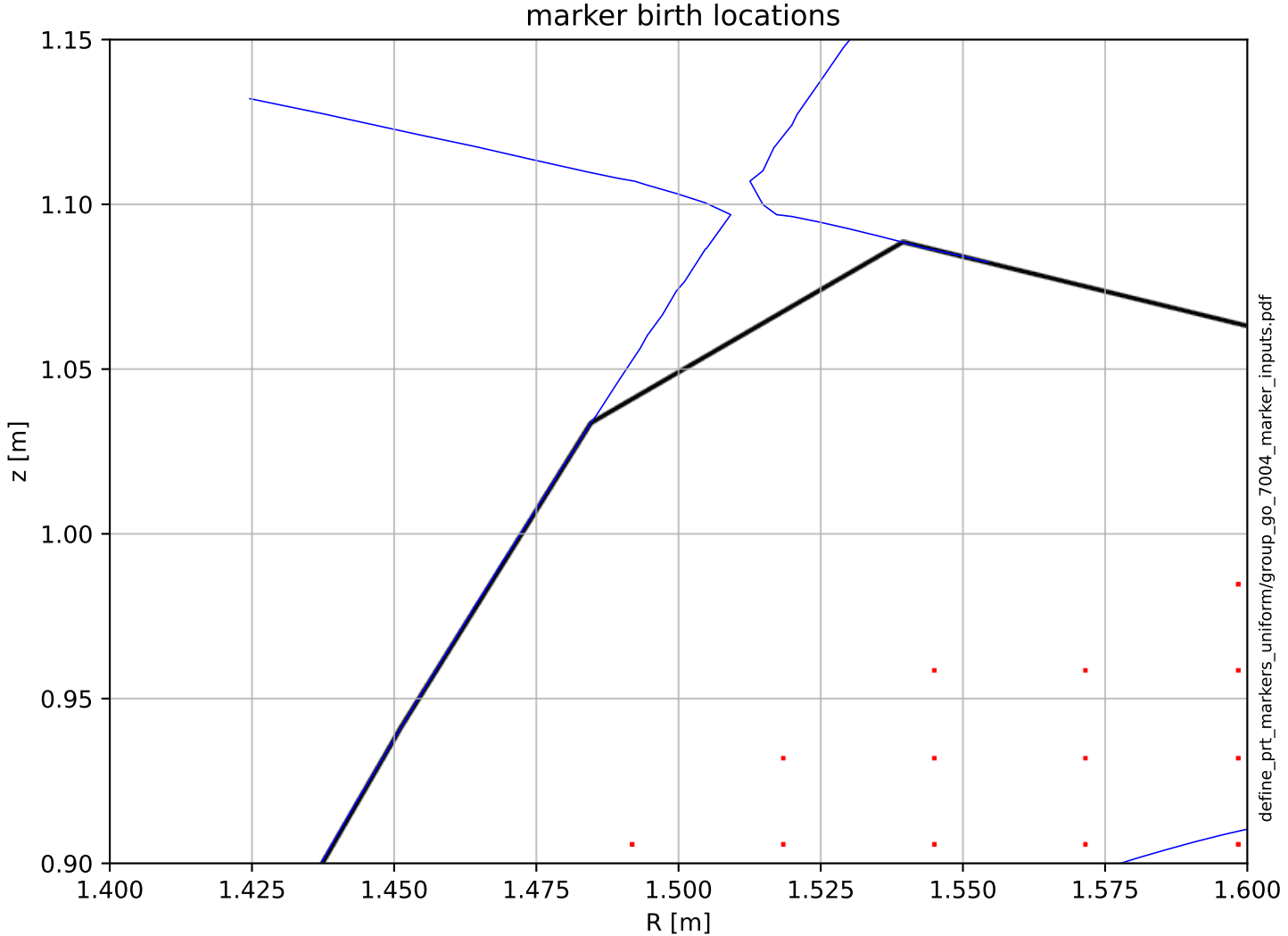

1.00
0.75
0.50
0.25
0.00
−0.25
−0.50
−0.75
−1.00
rho
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
rhos range
define_prt_markers_uniform/group_go_7004_marker_inputs.pdf

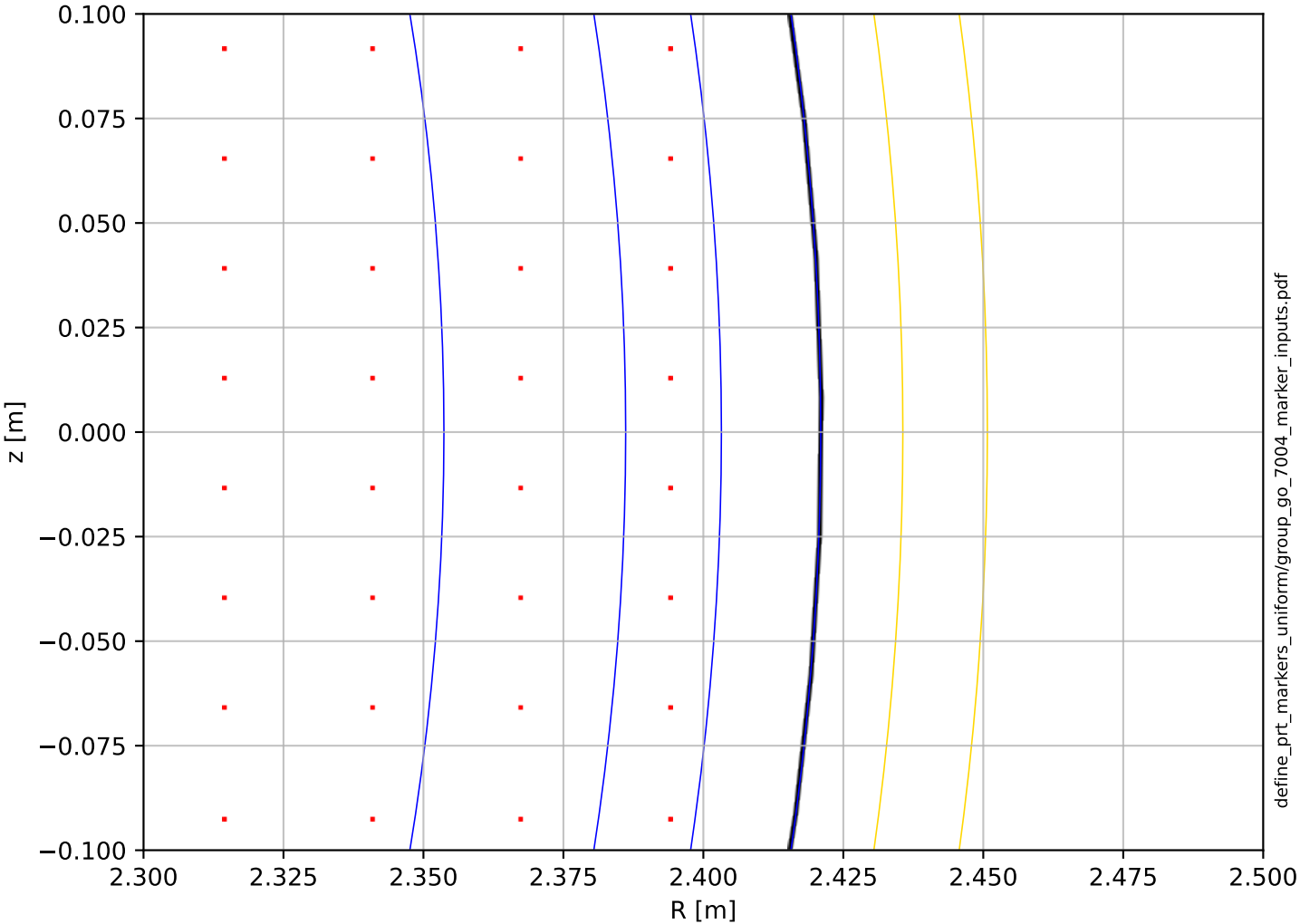

Npitches at rho < 0.1
Npitches
1.00
0.75
0.50
0.25
0.00
−0.25
−0.50
−0.75
−1.00
0
500
1000
1500
2000
Npitches range
define_prt_markers_uniform/group_go_7004_marker_inputs.pdf

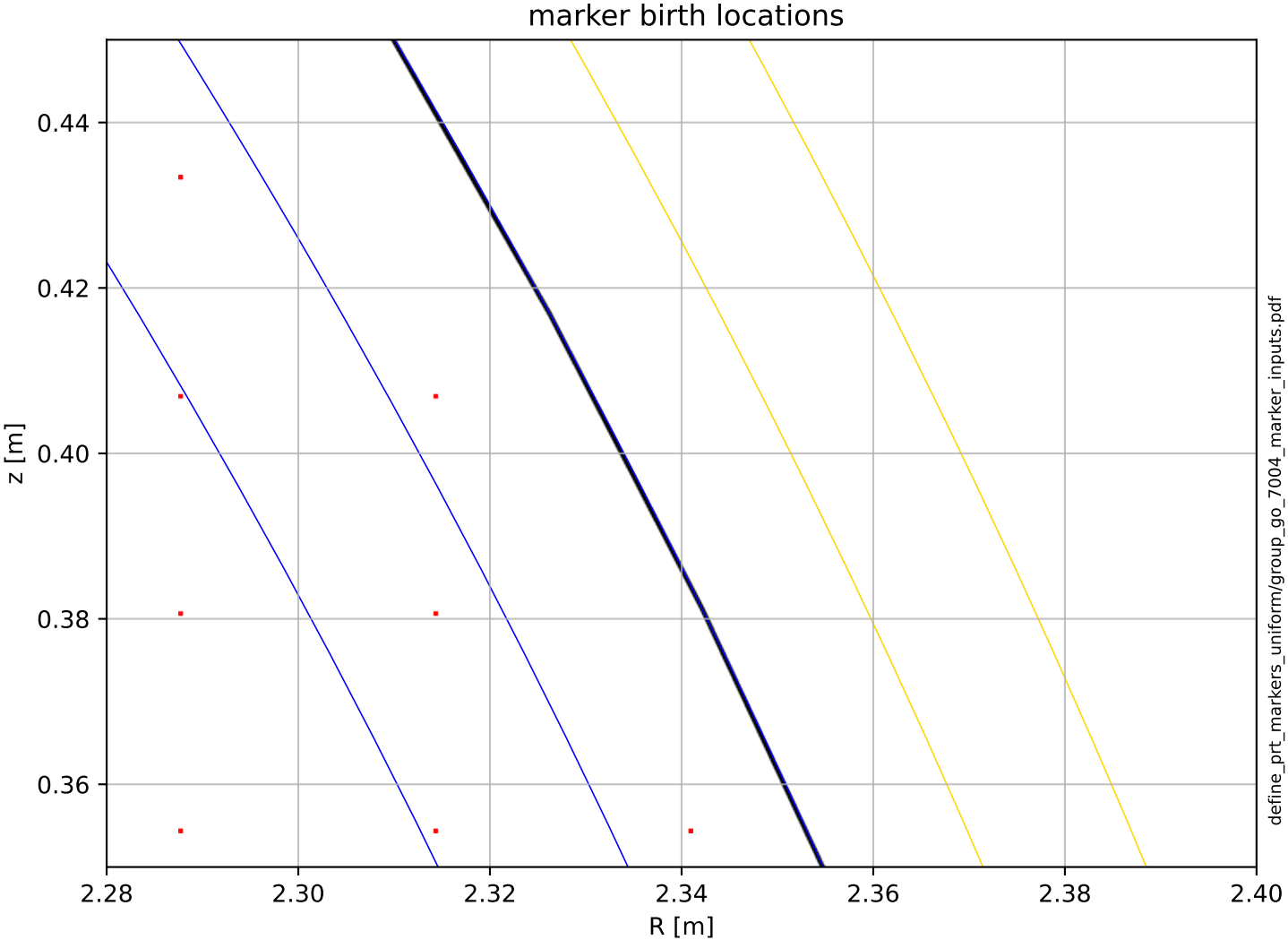

Npitches at rho > 0.9
1.00
0.75
0.50
0.25
0.00
−0.25
−0.50
−0.75
−1.00
Npitches
0
5000
10000
15000
20000
Npitches range
define_prt_markers_uniform/group_go_7004_marker_inputs.pdf


contours of rho-pol
1.0
0.5
0.0
−0.5
−1.0
z [m]
1.2
1.4
1.6
1.8
2.0
2.2
2.4
R [m]
1.0
0.9
0.7
0.6
0.4
0.2
0.1
0.3
0.5
0.8
1.0
define_prt_markers_uniform/group_go_7004_marker_inputs.pdf


marker birth locations
1.00
0.75
0.50
0.25
0.00
−0.25
−0.50
−0.75
−1.00
1.4
1.6
1.8
2.0
2.2
2.4
R [m]
1.0
0.5
0.0
−0.5
−1.0
z [m]
define_prt_markers_uniform/group_go_7004_marker_inputs.pdf


marker birth locations
1.15
1.10
1.05
1.00
0.95
0.90
z [m]
1.400
1.425
1.450
1.475
1.500
1.525
1.550
1.575
1.600
R [m]
define_prt_markers_uniform/group_go_7004_marker_inputs.pdf


marker birth locations
0.100
0.075
0.050
0.025
0.000
−0.025
−0.050
−0.075
−0.100
z [m]
2.300
2.325
2.350
2.375
2.400
2.425
2.450
2.475
2.500
R [m]
define_prt_markers_uniform/group_go_7004_marker_inputs.pdf


marker birth locations
0.44
0.42
0.40
0.38
0.36
z [m]
2.28
2.30
2.32
2.34
2.36
2.38
2.40
R [m]
define_prt_markers_uniform/group_go_7004_marker_inputs.pdf