ΔR

ΔΦ

Δ R vs Δ φ grid (2-D histogram)

ΔR \ Δφ	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7
15.5	-1	-1	-1	-1	-1	-1	-1	-1	-5	-3	-1	-1	-1	-1	-1
14.5	-1	-1	-1	-1	-1	-1	-1	-1	-6	-5	-5	-1	-1	-1	-1
13.5	-1	-1	-1	-1	-1	-1	-1	-6	-6	-6	-6	-1	-1	-1	-1
12.5	-1	-1	-1	-1	-1	-1	-1	-6	-7	-7	-6	-1	-1	-1	-1
11.5	-1	-1	-1	-1	-1	-1	-1	-7	-11	-9	-6	-1	-1	-1	-1
10.5	-1	-1	-1	-1	-1	-1	-1	-11	-11	-11	-1	-1	-1	-1	-1
9.5	-1	-1	-1	-1	-1	-1	-1	-1	-14	-13	-1	-1	-1	-1	-1
8.5	-1	-1	-1	-1	-1	-1	-1	-15	-15	-14	-1	-1	-1	-1	-1
7.5	-1	-1	-1	-1	-1	-1	-15	-15	-15	-15	-1	-1	-1	-1	-1
6.5	-1	-1	-1	-1	-1	-10	-15	-15	-15	-15	-1	-1	-1	-1	-1
5.5	-1	-1	-1	-1	-1	-1	-10	-15	-15	-15	-1	-1	-1	-1	-1
4.5	-1	-1	-1	-1	-1	1	1	-15	-15	-15	1	1	1	1	1
3.5	1	1	1	1	1	1	15	15	15	15	1	1	1	1	1
2.5	1	1	1	1	1	1	15	15	15	15	1	1	1	1	1
1.5	1	1	1	1	1	1	11	14	15	14	1	1	1	1	1
0.5	1	1	1	1	1	1	9	13	14	1	1	1	1	1	1
-0.5	1	1	1	1	1	1	1	12	12	7	1	1	1	1	1
-1.5	1	1	1	1	1	1	1	10	10	1	1	1	1	1	1
-2.5	1	1	1	1	1	1	1	7	8	8	1	1	1	1	1
-3.5	1	1	1	1	1	1	1	7	7	1	1	1	1	1	1
-4.5	1	1	1	1	1	1	1	6	6	1	1	1	1	1	1
-5.5	1	1	1	1	1	1	1	5	1	1	1	1	1	1	1
-6.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-7.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-8.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-9.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-10.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-11.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-12.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-13.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-14.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-15.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Axis labels: vertical axis ΔR; horizontal axis $\Delta\phi$.

ΔR (vertical axis), Δφ (horizontal axis)

ΔR \ Δφ	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
15.5	-1	-1	-1	-1	-1	-1	-1	-1	-3	-4	-1	-1	-1	-1
14.5	-1	-1	-1	-1	-1	-1	-1	-1	-5	-5	-5	-1	-1	-1
13.5	-1	-1	-1	-1	-1	-1	-1	-1	-7	-7	-6	-5	-1	-1
12.5	-1	-1	-1	-1	-1	-1	-1	-1	-7	-7	-6	-1	-1	-1
11.5	-1	-1	-1	-1	-1	-1	-1	-1	-11	-11	-7	-1	-1	-1
10.5	-1	-1	-1	-1	-1	-1	-1	-1	-13	-11	-9	-1	-1	-1
9.5	-1	-1	-1	-1	-1	-1	-1	-10	-14	-14	-11	-1	-1	-1
8.5	-1	-1	-1	-1	-1	-1	-10	-14	-15	-15	-1	-1	-1	-1
7.5	-1	-1	-1	-1	-1	-1	-14	-15	-15	-15	-1	-1	-1	-1
6.5	-1	-1	-1	-1	-1	-1	-15	-15	-15	-15	-14	-1	-1	-1
5.5	-1	-1	-1	-1	-1	-15	-1	-15	-15	-15	-1	-1	-1	-1
4.5	-1	-1	-1	-1	-1	1	1	15	15	15	1	1	1	1
3.5	1	1	1	1	1	1	15	15	15	15	1	1	1	1
2.5	1	1	1	1	1	1	14	15	15	15	1	1	1	1
1.5	1	1	1	1	1	1	1	15	15	14	1	1	1	1
0.5	1	1	1	1	1	1	1	13	14	9	1	1	1	1
-0.5	1	1	1	1	1	1	1	11	11	9	1	1	1	1
-1.5	1	1	1	1	1	1	1	9	9	9	1	1	1	1
-2.5	1	1	1	1	1	1	1	7	8	7	1	1	1	1
-3.5	1	1	1	1	1	1	1	7	7	1	1	1	1	1
-4.5	1	1	1	1	1	1	1	6	6	1	1	1	1	1
-5.5	1	1	1	1	1	1	1	5	5	1	1	1	1	1
-6.5	1	1	1	1	1	1	1	5	5	1	1	1	1	1
-7.5	1	1	1	1	1	1	1	4	4	1	1	1	1	1
-8.5	1	1	1	1	1	1	1	3	1	1	1	1	1	1
-9.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-10.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-11.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-12.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-13.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-14.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-15.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1

ΔR

ΔΦ

ΔR

Δφ

ΔR (vertical axis), Δφ (horizontal axis)

ΔR \ Δφ	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7
15.5	-1	-1	-1	-1	-1	-1	-1	-1	-3	-4	-3	-3	-1	-1	-1
14.5	-1	-1	-1	-1	-1	-1	-1	-4	-4	-5	-4	-3	-1	-1	-1
13.5	-1	-1	-1	-1	-1	-1	-1	-5	-10	-7	-5	-1	-1	-1	-1
12.5	-1	-1	-1	-1	-1	-1	-1	-5	-9	-9	-7	-1	-1	-1	-1
11.5	-1	-1	-1	-1	-1	-1	-1	-7	-9	-9	-8	-1	-1	-1	-1
10.5	-1	-1	-1	-1	-1	-1	-1	-11	-14	-11	-9	-1	-1	-1	-1
9.5	-1	-1	-1	-1	-1	-1	-9	-11	-14	-15	-8	-1	-1	-1	-1
8.5	-1	-1	-1	-1	-1	-1	-10	-14	-15	-15	-1	-1	-1	-1	-1
7.5	-1	-1	-1	-1	-1	-13	-15	-15	-15	-15	-14	-1	-1	-1	-1
6.5	-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-1	-1	-1	1	1
5.5	-1	-1	-1	-1	-1	-15	-15	-15	-15	15	1	1	1	1	1
4.5	-1	-1	-1	-1	-1	15	15	15	15	1	1	1	1	1	1
3.5	-1	-1	-1	1	1	1	15	15	15	15	1	1	1	1	1
2.5	1	1	1	1	1	1	15	15	15	15	1	1	1	1	1
1.5	1	1	1	1	1	1	14	14	15	14	1	1	1	1	1
0.5	1	1	1	1	1	1	9	12	13	11	1	1	1	1	1
-0.5	1	1	1	1	1	1	9	10	11	1	1	1	1	1	1
-1.5	1	1	1	1	1	1	1	9	9	8	1	1	1	1	1
-2.5	1	1	1	1	1	1	1	7	8	8	1	1	1	1	1
-3.5	1	1	1	1	1	1	1	6	7	6	1	1	1	1	1
-4.5	1	1	1	1	1	1	1	6	6	5	1	1	1	1	1
-5.5	1	1	1	1	1	1	1	6	6	1	1	1	1	1	1
-6.5	1	1	1	1	1	1	1	5	5	1	1	1	1	1	1
-7.5	1	1	1	1	1	1	1	4	4	1	1	1	1	1	1
-8.5	1	1	1	1	1	1	1	4	4	3	1	1	1	1	1
-9.5	1	1	1	1	1	1	1	3	4	1	1	1	1	1	1
-10.5	1	1	1	1	1	1	1	3	3	1	1	1	1	1	1
-11.5	1	1	1	1	1	1	1	1	3	1	1	1	1	1	1
-12.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-13.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-14.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-15.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

2D histogram with axes ΔR (vertical) and $\Delta\phi$ (horizontal).

ΔR \ $\Delta\phi$	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7
15	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-4	-4	-1	-1	-1
14	-1	-1	-1	-1	-1	-1	-1	-1	-4	-5	-4	-4	-1	-1	-1
13	-1	-1	-1	-1	-1	-1	-1	-1	-5	-7	-7	-4	-1	-1	-1
12	-1	-1	-1	-1	-1	-1	-1	-7	-7	-8	-7	-1	-1	-1	-1
11	-1	-1	-1	-1	-1	-1	-1	-11	-12	-11	-8	-1	-1	-1	-1
10	-1	-1	-1	-1	-1	-1	-1	-9	-11	-11	-9	-1	-1	-1	-1
9	-1	-1	-1	-1	-1	-1	-1	-9	-15	-13	-11	-1	-1	-1	-1
8	-1	-1	-1	-1	-1	-1	-12	-15	-15	-15	-13	-1	-1	-1	-1
7	-1	-1	-1	-1	-1	-14	-15	-15	-15	-15	-14	-1	-1	-1	-1
6	-1	-1	-1	-1	-1	-14	-15	-15	-15	-15	-13	-1	-1	-1	-1
5	-1	-1	-1	-1	-1	-15	-15	-15	-15	-1	1	1	1	1	1
4	-1	1	1	1	1	1	15	15	15	15	1	1	1	1	1
3	1	1	1	1	1	15	15	15	15	15	1	1	1	1	1
2	1	1	1	1	1	14	15	15	15	15	1	1	1	1	1
1	1	1	1	1	1	1	14	15	15	12	1	1	1	1	1
0	1	1	1	1	1	1	7	13	13	11	1	1	1	1	1
-1	1	1	1	1	1	1	1	11	11	1	1	1	1	1	1
-2	1	1	1	1	1	1	1	10	10	7	1	1	1	1	1
-3	1	1	1	1	1	1	1	7	10	1	1	1	1	1	1
-4	1	1	1	1	1	1	1	7	7	1	1	1	1	1	1
-5	1	1	1	1	1	1	1	5	6	1	1	1	1	1	1
-6	1	1	1	1	1	1	1	6	5	1	1	1	1	1	1
-7	1	1	1	1	1	1	1	5	5	1	1	1	1	1	1
-8	1	1	1	1	1	1	1	5	5	1	1	1	1	1	1
-9	1	1	1	1	1	1	1	1	4	1	1	1	1	1	1
-10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-11	1	1	1	1	1	1	1	1	3	1	1	1	1	1	1
-12	1	1	1	1	1	1	1	3	3	1	1	1	1	1	1
-13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

ΔR

Δφ	−7	−6	−5	−4	−3	−2	−1	0	1	2	3	4	5	6	7
15.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-4	-4	-1	-1	-1
14.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-5	-5	-1	-1	-1
13.5	-1	-1	-1	-1	-1	-1	-1	-1	-6	-6	-5	-1	-1	-1	-1
12.5	-1	-1	-1	-1	-1	-1	-1	-1	-7	-7	-7	-5	-1	-1	-1
11.5	-1	-1	-1	-1	-1	-1	-1	-7	-11	-11	-8	-1	-1	-1	-1
10.5	-1	-1	-1	-1	-1	-1	-1	-1	-14	-12	-9	-1	-1	-1	-1
9.5	-1	-1	-1	-1	-1	-1	-1	-1	-15	-15	-13	-1	-1	-1	-1
8.5	-1	-1	-1	-1	-1	-1	-1	-1	-15	-15	-13	-1	-1	-1	-1
7.5	-1	-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-1	-1	-1	-1
6.5	-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-15	-1	-1	-1	-1
5.5	-1	-1	-1	-1	-1	-1	-15	-15	-15	-15	-1	-1	-1	-1	-1
4.5	-1	-1	-1	-1	-1	-1	1	15	15	15	1	1	1	1	1
3.5	1	1	1	1	1	15	15	15	15	1	1	1	1	1	1
2.5	1	1	1	1	1	15	15	15	15	1	1	1	1	1	1
1.5	1	1	1	1	1	14	15	15	14	1	1	1	1	1	1
0.5	1	1	1	1	1	1	13	14	11	1	1	1	1	1	1
-0.5	1	1	1	1	1	9	11	11	9	1	1	1	1	1	1
-1.5	1	1	1	1	1	9	9	9	1	1	1	1	1	1	1
-2.5	1	1	1	1	1	7	8	7	1	1	1	1	1	1	1
-3.5	1	1	1	1	1	1	7	7	1	1	1	1	1	1	1
-4.5	1	1	1	1	1	1	7	7	1	1	1	1	1	1	1
-5.5	1	1	1	1	1	1	6	6	1	1	1	1	1	1	1
-6.5	1	1	1	1	1	1	5	5	1	1	1	1	1	1	1
-7.5	1	1	1	1	1	1	5	5	1	1	1	1	1	1	1
-8.5	1	1	1	1	1	1	4	1	1	1	1	1	1	1	1
-9.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-10.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-11.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-12.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-13.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-14.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-15.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Δφ

ΔR

ΔΦ

ΔR

Δφ

ΔR (vertical axis), Δφ (horizontal axis)

ΔR	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-3	-3	-1	-1	-1
15.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-4	-4	-1	-1	-1
13.5	-1	-1	-1	-1	-1	-1	-1	-1	-5	-5	-6	-6	-1	-1	-1
12.5	-1	-1	-1	-1	-1	-1	-1	-1	-8	-7	-7	-6	-1	-1	-1
11.5	-1	-1	-1	-1	-1	-1	-1	-7	-9	-9	-8	-6	-1	-1	-1
10.5	-1	-1	-1	-1	-1	-1	-1	-1	-11	-14	-9	-1	-1	-1	-1
9.5	-1	-1	-1	-1	-1	-1	-1	-1	-14	-14	-11	-1	-1	-1	-1
8.5	-1	-1	-1	-1	-1	-1	-1	-10	-15	-14	-12	-1	-1	-1	-1
7.5	-1	-1	-1	-1	-1	-1	-1	-13	-15	-15	-1	-1	-1	-1	-1
6.5	-1	-1	-1	-1	-1	-1	-15	-15	-15	-15	-14	-1	-1	-1	-1
5.5	-1	-1	-1	-1	-1	-1	-15	-15	-15	-15	1	1	1	1	1
4.5	1	1	1	1	1	1	1	15	15	15	1	1	1	1	1
3.5	1	1	1	1	1	1	15	15	15	15	1	1	1	1	1
2.5	1	1	1	1	1	12	15	15	15	15	1	1	1	1	1
1.5	1	1	1	1	1	11	12	15	15	15	1	1	1	1	1
0.5	1	1	1	1	1	1	11	13	13	9	1	1	1	1	1
-0.5	1	1	1	1	1	1	10	11	11	1	1	1	1	1	1
-1.5	1	1	1	1	1	1	1	9	9	7	1	1	1	1	1
-2.5	1	1	1	1	1	1	1	8	7	1	1	1	1	1	1
-3.5	1	1	1	1	1	1	7	7	7	1	1	1	1	1	1
-4.5	1	1	1	1	1	1	1	7	6	6	1	1	1	1	1
-5.5	1	1	1	1	1	1	5	6	6	1	1	1	1	1	1
-6.5	1	1	1	1	1	1	1	5	4	1	1	1	1	1	1
-7.5	1	1	1	1	1	1	1	4	3	1	1	1	1	1	1
-8.5	1	1	1	1	1	1	1	4	1	1	1	1	1	1	1
-9.5	1	1	1	1	1	1	1	4	4	1	1	1	1	1	1
-10.5	1	1	1	1	1	1	3	4	1	1	1	1	1	1	1
-11.5	1	1	1	1	1	1	3	3	3	1	1	1	1	1	1
-12.5	1	1	1	1	1	1	1	3	3	1	1	1	1	1	1
-13.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-14.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-15.5

Δφ axis: -7.5 -6.5 -5.5 -4.5 -3.5 -2.5 -1.5 -0.5 0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5

ΔR

15.5
14.5
13.5
12.5
11.5
10.5
9.5
8.5
7.5
6.5
5.5
4.5
3.5
2.5
1.5
0.5
−0.5
−1.5
−2.5
−3.5
−4.5
−5.5
−6.5
−7.5
−8.5
−9.5
−10.5
−11.5
−12.5
−13.5
−14.5
−15.5

−7.5 −6.5 −5.5 −4.5 −3.5 −2.5 −1.5 −0.5 0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5 Δφ

ΔR (vertical axis), Δφ (horizontal axis)

ΔR \ Δφ	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7
15	-1	-1	-1	-1	-1	-1	-1	-1	-3	-3	-3	-1	-1	-1	-1
14	-1	-1	-1	-1	-1	-1	-1	-1	-4	-4	-4	-1	-1	-1	-1
13	-1	-1	-1	-1	-1	-1	-1	-4	-5	-5	-5	-1	-1	-1	-1
12	-1	-1	-1	-1	-1	-1	-5	-6	-6	-6	-4	-1	-1	-1	-1
11	-1	-1	-1	-1	-1	-1	-6	-8	-7	-6	-1	-1	-1	-1	-1
10	-1	-1	-1	-1	-1	-1	-1	-9	-12	-9	-1	-1	-1	-1	-1
9	-1	-1	-1	-1	-1	-1	-9	-12	-13	-12	-8	-1	-1	-1	-1
8	-1	-1	-1	-1	-1	-1	-1	-12	-15	-14	-12	-1	-1	-1	-1
7	-1	-1	-1	-1	-1	-1	-13	-15	-15	-15	-14	-1	-1	-1	-1
6	-1	-1	-1	-1	-1	-1	-15	-15	-15	-15	-1	-1	-1	-1	-1
5	-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-1	-1	-1	-1	-1
4	-1	-1	-1	-1	-1	-1	-15	15	15	15	1	1	1	1	1
3	1	1	1	1	14	15	15	15	15	15	1	1	1	1	1
2	1	1	1	1	14	14	14	15	15	15	1	1	1	1	1
1	1	1	1	1	14	13	15	15	14	1	1	1	1	1	1
0	1	1	1	1	10	13	13	14	9	1	1	1	1	1	1
-1	1	1	1	1	1	11	11	12	11	1	1	1	1	1	1
-2	1	1	1	1	1	1	9	11	8	1	1	1	1	1	1
-3	1	1	1	1	1	1	7	7	6	1	1	1	1	1	1
-4	1	1	1	1	1	1	7	7	6	1	1	1	1	1	1
-5	1	1	1	1	1	1	6	6	6	5	1	1	1	1	1
-6	1	1	1	1	1	1	6	6	1	1	1	1	1	1	1
-7	1	1	1	1	1	1	5	5	1	1	1	1	1	1	1
-8	1	1	1	1	1	1	5	5	1	1	1	1	1	1	1
-9	1	1	1	1	1	1	3	1	1	1	1	1	1	1	1
-10	1	1	1	1	1	1	3	3	1	1	1	1	1	1	1
-11	1	1	1	1	1	1	3	3	1	1	1	1	1	1	1
-12	1	1	1	1	1	1	3	3	1	1	1	1	1	1	1
-13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

ΔR (vertical axis) / Δφ (horizontal axis)

ΔR \ Δφ	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7
15	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-3	-3	-1	-1	-1
14	-1	-1	-1	-1	-1	-1	-1	-1	-1	-3	-3	-5	-1	-1	-1
13	-1	-1	-1	-1	-1	-1	-1	-1	■	-5	-5	-6	-5	-1	-1
12	-1	-1	-1	-1	-1	-1	-1	-9	-7	-7	-6		-1	-1	-1
11	-1	-1	-1	-1	-1	-1	-1	-11	-11	-9	-7	-6	-6	-1	-1
10	-1	-1	-1	-1	-1	-1	-1	-1	-12	-9	-9	-7	-1	-1	-1
9	-1	-1	-1	-1	-1	-1	-1	-1	-14	-14	-7	-1	-1	-1	-1
8	-1	-1	-1	-1	-1	-1	-14	-15	-14	-14	-1	-1	-1	-1	
7	-1	-1	-1	-1	-1	-12	-15	-15	-15	-13	-1	-1	-1	-1	
6	-1	-1	-1	-1	-1	-15	-15	-15	-15	-1	-1	-1	-1	-1	
5	-1	-1	-1	-1	-1	-15	-15	-15	-15	-1	-1	-1	-1	1	
4	-1	-1	-1	-1	1	1	15	15	15	15	1	1	1	1	
3	1	1	1	1	1	15	15	15	15	15	1	1	1	1	
2	1	1	1	1	1	14	15	15	15	15	1	1	1	1	
1	1	1	1	1	1	1	10	15	15	15	1	1	1	1	
0	1	1	1	1	1	1	1	14	14	13	1	1	1	1	
-1	1	1	1	1	1	1	9	12	13	8	1	1	1	1	
-2	1	1	1	1	1	1	1	8	9	1	1	1	1	1	
-3	1	1	1	1	1	1	1	8	8	7	1	1	1	1	
-4	1	1	1	1	1	1	1	7	7	6	1	1	1	1	
-5	1	1	1	1	1	1	1	7	7	1	1	1	1	1	
-6	1	1	1	1	1	1	1	6	6	5	1	1	1	1	
-7	1	1	1	1	1	1	1	5	5	1	1	1	1	1	
-8	1	1	1	1	1	1	1	4	1	1	1	1	1	1	
-9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
-10	1	1	1	1	1	1	1	3	3	1	1	1	1	1	
-11	1	1	1	1	1	1	1	3	3	1	1	1	1	1	
-12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
-13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
-14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	

2D histogram of ΔR (vertical axis) versus $\Delta\phi$ (horizontal axis).

ΔR \ $\Delta\phi$	−7	−6	−5	−4	−3	−2	−1	0	1	2	3	4	5	6	7
15	−1	−1	−1	−1	−1	−1	−1	−1	−3	−3	−1	−3	−3	−1	−1
14	−1	−1	−1	−1	−1	−1	−1	−3	−4	−4	−3	−3	−3	−1	−1
13	−1	−1	−1	−1	−1	−1	−1	−3	−4	−4	−3	−3	−3	−1	−1
12	−1	−1	−1	−1	−1	−1	−4	−4	−7	−5	−5	−4	−1	−1	−1
11	−1	−1	−1	−1	−1	−1	−4	−9	−14	−7	−6	−5	−1	−1	−1
10	−1	−1	−1	−1	−1	−1	−6	−14	−14	−6	−1	−1	−1	−1	−1
9	−1	−1	−1	−1	−1	−1	−7	−15	−9	−7	−1	−1	−1	−1	−1
8	−1	−1	−1	−1	−1	−1	−9	−15	−12	−1	−1	−1	−1	−1	−1
7	−1	−1	−1	−1	−1	−14	−14	−15	−15	−12	−1	−1	−1	−1	−1
6	−1	−1	−1	−1	−1	−15	−15	−15	−15	−13	−1	−1	−1	−1	−1
5	−1	−1	−1	−1	−1	−15	−15	−15	−15	−1	−1	−1	−1	−1	−1
4	−1	−1	−1	−1	−15	−15	−15	−15	−15	−1	−1	−1	−1	−1	−1
3	1	1	1	1	14	15	15	15	15	1	1	1	1	1	1
2	1	1	1	1	14	15	15	15	15	1	1	1	1	1	1
1	1	1	1	1	1	12	15	15	15	1	1	1	1	1	1
0	1	1	1	1	1	11	14	14	13	1	1	1	1	1	1
−1	1	1	1	1	1	1	11	12	8	1	1	1	1	1	1
−2	1	1	1	1	1	1	8	9	8	1	1	1	1	1	1
−3	1	1	1	1	1	5	7	7	1	1	1	1	1	1	1
−4	1	1	1	1	1	5	6	7	6	1	1	1	1	1	1
−5	1	1	1	1	1	1	5	6	1	1	1	1	1	1	1
−6	1	1	1	1	1	1	5	5	5	1	1	1	1	1	1
−7	1	1	1	1	1	1	5	5	1	1	1	1	1	1	1
−8	1	1	1	1	1	1	4	3	1	1	1	1	1	1	1
−9	1	1	1	1	1	1	1	3	1	1	1	1	1	1	1
−10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
−11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
−12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
−13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
−14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
−15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

ΔR

Δφ

ΔR (vertical axis), Δφ (horizontal axis)

Heatmap of values:

ΔR \ Δφ															
15.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-3	-3	-1	-1
14.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-4	-4	-3	-3	-1	-1
13.5	-1	-1	-1	-1	-1	-1	-1	-1	-4	-4	-4	-4	-1	-1	-1
12.5	-1	-1	-1	-1	-1	-1	-1	-1	-5	-4	-6	-5	-1	-1	-1
11.5	-1	-1	-1	-1	-1	-1	-1	-5	-6	-7	-7	-1	-1	-1	-1
10.5	-1	-1	-1	-1	-1	-1	-1	-6	-12	-7	-7	-1	-1	-1	-1
9.5	-1	-1	-1	-1	-1	-1	-1	-12	-14	-7	-1	-1	-1	-1	
8.5	-1	-1	-1	-1	-1	-1	-1	-14	-14	-9	-1	-1	-1	-1	
7.5	-1	-1	-1	-1	-1	-1	-11	-15	-15	-11	-1	-1	-1	-1	
6.5	-1	-1	-1	-1	-1	-14	-15	-15	-15	-14	-1	-1	-1	-1	
5.5	-1	-1	-1	-1	-14	-15	-15	-15	-15	-14	-1	-1	-1	-1	
4.5	-1	-1	-1	-1	-14	-15	-15	-15	-15	-1	-1	-1	-1	-1	
3.5	1	1	1	1	1	15	15	15	15	1	1	1	1	1	
2.5	1	1	1	1	14	15	15	15	15	1	1	1	1	1	
1.5	1	1	1	1	13	14	15	15	14	1	1	1	1	1	
0.5	1	1	1	1	9	12	14	14	14	1	1	1	1	1	
-0.5	1	1	1	1	1	9	11	11	1	1	1	1	1	1	
-1.5	1	1	1	1	1	7	9	9	1	1	1	1	1	1	
-2.5	1	1	1	1	1	5	7	7	6	1	1	1	1	1	
-3.5	1	1	1	1	1	1	7	6	1	1	1	1	1	1	
-4.5	1	1	1	1	1	1	7	7	1	1	1	1	1	1	
-5.5	1	1	1	1	1	1	6	6	1	1	1	1	1	1	
-6.5	1	1	1	1	1	3	4	4	1	1	1	1	1	1	
-7.5	1	1	1	1	1	1	4	4	1	1	1	1	1	1	
-8.5	1	1	1	1	1	1	4	4	1	1	1	1	1	1	
-9.5	1	1	1	1	1	1	3	1	1	1	1	1	1	1	
-10.5	1	1	1	1	1	1	3	3	1	1	1	1	1	1	
-11.5	1	1	1	1	1	1	3	3	1	1	1	1	1	1	
-12.5	1	1	1	1	1	1	3	3	1	1	1	1	1	1	
-13.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
-14.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
-15.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	

Δφ axis: -7.5 -6.5 -5.5 -4.5 -3.5 -2.5 -1.5 -0.5 0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5

ΔR

15.5
14.5
13.5
12.5
11.5
10.5
9.5
8.5
7.5
6.5
5.5
4.5
3.5
2.5
1.5
0.5
−0.5
−1.5
−2.5
−3.5
−4.5
−5.5
−6.5
−7.5
−8.5
−9.5
−10.5
−11.5
−12.5
−13.5
−14.5
−15.5

−7.5 −6.5 −5.5 −4.5 −3.5 −2.5 −1.5 −0.5 0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5

Δφ

Heatmap of cell values as a function of $\Delta\phi$ (horizontal axis) and ΔR (vertical axis).

ΔR															
15.5	-1	-1	-1	-1	-1	-1	-1	-1	-3	-2	-1	-2	-2	-1	-1
14.5	-1	-1	-1	-1	-1	-1	-1	-3	-3	-3	-3	-3	-3	-1	-1
13.5	-1	-1	-1	-1	-1	-1	-1	-1	-3	-3	-3	-3	-1	-1	-1
12.5	-1	-1	-1	-1	-1	-1	-1	-4	-4	-4	-4	-1	-1	-1	-1
11.5	-1	-1	-1	-1	-1	-1	-4	-4	-9	-5	-5	-3	-1	-1	-1
10.5	-1	-1	-1	-1	-1	-1	-1	-7	-7	-7	-6	-1	-1	-1	-1
9.5	-1	-1	-1	-1	-1	-1	-1	-7	-7	-7	-7	-1	-1	-1	-1
8.5	-1	-1	-1	-1	-1	-1	-9	-12	-12	-5	-1	-1	-1	-1	-1
7.5	-1	-1	-1	-1	-1	-9	-9	-15	-15	-9	-1	-1	-1	-1	-1
6.5	-1	-1	-1	-1	-1	-11	-15	-15	-15	-12	-1	-1	-1	-1	-1
5.5	-1	-1	-1	-1	-1	-15	-15	-15	-15	-11	-1	-1	-1	-1	-1
4.5	-1	-1	-1	-1	-1	-15	-15	-15	-15	-1	-1	-1	-1	-1	-1
3.5	1	1	1	1	1	15	15	15	15	15	1	1	1	1	1
2.5	1	1	1	1	1	15	15	15	15	15	1	1	1	1	1
1.5	1	1	1	1	1	1	14	15	15	15	1	1	1	1	1
0.5	1	1	1	1	1	1	11	12	14	13	1	1	1	1	1
-0.5	1	1	1	1	1	1	1	11	12	9	1	1	1	1	1
-1.5	1	1	1	1	1	1	7	8	9	1	1	1	1	1	1
-2.5	1	1	1	1	1	1	7	7	7	6	1	1	1	1	1
-3.5	1	1	1	1	1	1	1	7	6	6	1	1	1	1	1
-4.5	1	1	1	1	1	1	1	6	6	4	1	1	1	1	1
-5.5	1	1	1	1	1	1	1	5	4	1	1	1	1	1	1
-6.5	1	1	1	1	1	1	1	3	4	1	1	1	1	1	1
-7.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-8.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-9.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-10.5	1	1	1	1	1	1	1	1	3	1	1	1	1	1	1
-11.5	1	1	1	1	1	1	1	1	3	1	1	1	1	1	1
-12.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-13.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-14.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-15.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

$\Delta\phi$: -7.5, -6.5, -5.5, -4.5, -3.5, -2.5, -1.5, -0.5, 0.5, 1.5, 2.5, 3.5, 4.5, 5.5, 6.5, 7.5

Scatter/heatmap plot. Vertical axis labelled ΔR with tick values from 15.5 down to −15.5 (in steps of 1.0). Horizontal axis labelled $\Delta\phi$ with tick values from −7.5 to 7.5.

Grid cell values (top to bottom rows, left to right columns):

-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-3	-3	-1	-1
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-3	-3	-3	-3	-1
-1	-1	-1	-1	-1	-1	-1	-1	-1	-3	-4	-4	-3	-1	-1
-1	-1	-1	-1	-1	-1	-1	-1	-4	-4	-4	-4	-1	-1	-1
-1	-1	-1	-1	-1	-1	-1	-4	-5	-5	-5	-5	-1	-1	-1
-1	-1	-1	-1	-1	-1	-1	-5	-7	-7	-7	-6	-1	-1	-1
-1	-1	-1	-1	-1	-1	-1	-6	-9	-7	-7	-6	-1	-1	-1
-1	-1	-1	-1	-1	-1	-1	-6	-14	-14	-8	-1	-1	-1	-1
-1	-1	-1	-1	-1	-1	-11	-15	-14	-14	-9	-1	-1	-1	-1
-1	-1	-1	-1	-1	-1	-14	-15	-15	-15	-12	-1	-1	-1	-1
-1	-1	-1	-1	-1	-14	-15	-15	-15	-15	-12	-1	-1	-1	-1
-1	-1	-1	-1	-1	-1	-15	-15	-15	-15	-1	-1	-1	-1	1
-1	-1	-1	-1	1	15	15	15	15	15	1	1	1	1	1
1	1	1	1	1	15	15	15	15	15	1	1	1	1	1
1	1	1	1	1	14	15	15	14	1	1	1	1	1	1
1	1	1	1	1	1	14	14	14	1	1	1	1	1	1
1	1	1	1	1	1	10	11	9	1	1	1	1	1	1
1	1	1	1	1	6	9	9	7	7	1	1	1	1	1
1	1	1	1	1	7	7	7	7	1	1	1	1	1	1
1	1	1	1	1	5	7	7	6	1	1	1	1	1	1
1	1	1	1	1	1	5	6	5	1	1	1	1	1	1
1	1	1	1	1	1	5	5	1	1	1	1	1	1	1
1	1	1	1	1	1	4	4	1	1	1	1	1	1	1
1	1	1	1	1	1	1	4	1	1	1	1	1	1	1
1	1	1	1	1	1	4	4	1	1	1	1	1	1	1
1	1	1	1	1	1	3	3	1	1	1	1	1	1	1
1	1	1	1	1	1	3	3	1	1	1	1	1	1	1
1	1	1	1	1	1	3	3	1	1	1	1	1	1	1
1	1	1	1	1	1	3	3	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Heatmap of cell values as a function of $\Delta\phi$ (horizontal axis, from -7.5 to 7.5) and ΔR (vertical axis, from 15.5 to -15.5).

ΔR \ $\Delta\phi$															
15	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-3	-3	-1
14	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-3	-3	-3	-1
13	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-4	-4	-3	-1
12	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-5	-7	-4	-1	-1
11	-1	-1	-1	-1	-1	-1	-1	-1	-1	-6	-7	-7	-4	-1	-1
10	-1	-1	-1	-1	-1	-1	-1	-1	-6	-7	-7	-7	-1	-1	-1
9	-1	-1	-1	-1	-1	-1	-1	-7	-10	-10	-9	-7	-1	-1	-1
8	-1	-1	-1	-1	-1	-1	-1	-7	-14	-11	-11	-7	-1	-1	-1
7	-1	-1	-1	-1	-1	-1	-9	-9	-15	-15	-12	-1	-1	-1	-1
6	-1	-1	-1	-1	-1	-9	-14	-14	-15	-15	-14	-1	-1	-1	-1
5	-1	-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-1	-1	-1	-1
4	-1	-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-1	-1	1	1
3	-1	-1	-1	1	1	14	15	15	15	15	1	1	1	1	1
2	1	1	1	1	1	15	15	15	15	15	1	1	1	1	1
1	1	1	1	1	1	14	15	15	15	14	1	1	1	1	1
0	1	1	1	1	1	11	14	14	14	12	1	1	1	1	1
-1	1	1	1	1	1	10	10	14	11	1	1	1	1	1	1
-2	1	1	1	1	1	1	9	9	9	1	1	1	1	1	1
-3	1	1	1	1	1	1	8	8	7	1	1	1	1	1	1
-4	1	1	1	1	1	1	8	8	7	1	1	1	1	1	1
-5	1	1	1	1	1	1	5	6	7	1	1	1	1	1	1
-6	1	1	1	1	1	1	5	5	5	1	1	1	1	1	1
-7	1	1	1	1	1	1	4	5	1	1	1	1	1	1	1
-8	1	1	1	1	1	1	1	4	4	1	1	1	1	1	1
-9	1	1	1	1	1	1	4	4	1	1	1	1	1	1	1
-10	1	1	1	1	1	1	4	4	1	1	1	1	1	1	1
-11	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1
-12	1	1	1	1	1	1	2	3	2	1	1	1	1	1	1
-13	1	1	1	1	1	1	1	3	1	1	1	1	1	1	1
-14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Horizontal axis: $\Delta\phi$ (tick values $-7.5, -6.5, -5.5, -4.5, -3.5, -2.5, -1.5, -0.5, 0.5, 1.5, 2.5, 3.5, 4.5, 5.5, 6.5, 7.5$)

Vertical axis: ΔR (tick values $15.5, 14.5, 13.5, \ldots, -14.5, -15.5$)

ΔR

Δφ

ΔR

Δφ

ΔR

ΔφΔφ

ΔR \ Δφ	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7
15.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-3	-1
14.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-3	-3	-1
13.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-3	-3	-1
12.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-5	-4	-1	-1
11.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-7	-6	-5	-1	-1
10.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-7	-8	-7	-1	-1	-1
9.5	-1	-1	-1	-1	-1	-1	-1	-7	-9	-8	-8	-1	-1	-1	
8.5	-1	-1	-1	-1	-1	-1	-12	-12	-9	-9	-7	-1	-1	-1	
7.5	-1	-1	-1	-1	-1	-12	-12	-15	-14	-11	-9	-1	-1	-1	
6.5	-1	-1	-1	-1	-11	-11	-14	-15	-15	-14	-8	-1	-1	-1	
5.5	-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-1	-1	-1	-1	
4.5	1	1	1	1	1	15	15	-15	-15	-15	-15	-1	-1	-1	
3.5	1	1	1	1	1	15	15	15	15	15	-15	-1	-1	-1	
2.5	1	1	1	1	1	15	15	15	15	15	1	1	1	1	1
1.5	1	1	1	1	11	14	15	15	15	15	1	1	1	1	1
0.5	1	1	1	1	11	14	14	14	14	1	1	1	1	1	
-0.5	1	1	1	1	9	11	13	12	1	1	1	1	1	1	
-1.5	1	1	1	1	8	9	9	1	1	1	1	1	1		
-2.5	1	1	1	1	7	8	8	1	1	1	1	1	1		
-3.5	1	1	1	1	7	7	6	1	1	1	1	1	1		
-4.5	1	1	1	1	■	6	6	■	1	1	1	1	1		
-5.5	1	1	1	1	5	5	5	1	1	1	1	1			
-6.5	1	1	1	1	1	3	4	1	1	1	1	1			
-7.5	1	1	1	1	1	1	1	1	1	1	1	1			
-8.5	1	1	1	1	1	1	1	1	1	1	1	1			
-9.5	1	1	1	1	1	1	1	1	1	1	1	1			
-10.5	1	1	1	1	1	1	1	1	1	1	1	1			
-11.5	1	1	1	1	1	3	3	1	1	1	1	1			
-12.5	1	1	1	1	1	3	3	1	1	1	1	1			
-13.5	1	1	1	1	1	1	1	1	1	1	1	1			
-14.5	1	1	1	1	1	1	1	1	1	1	1	1			
-15.5	1	1	1	1	1	1	1	1	1	1	1	1			

ΔR

ΔΦ

ΔR

Δφ

Heatmap of values versus $\Delta\phi$ (horizontal axis) and ΔR (vertical axis).

ΔR \ $\Delta\phi$	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7
15.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
14.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-3	-3
13.5	-1	-1	-2	-2	-1	-1	-1	-1	-3	-1	-1	-3	-3	-3	-3
12.5	-1	-1	-1	-3	-3	-1	-1	-3	-4	-1	-1	-3	-3	-3	-1
11.5	-1	-1	-1	-1	-1	-1	-3	-3	-4	-4	-3	-4	-3	-1	-1
10.5	-1	-1	-1	-1	-1	-1	-3	-4	-4	-5	-4	-4	-1	-1	-1
9.5	-1	-1	-1	-1	-1	-1	-4	-4	-6	-6	-5	-5	-1	-1	-1
8.5	-1	-1	-1	-1	-1	-5	-5	-5	-12	-12	-7	-5	-1	-1	-1
7.5	-1	-1	-1	-1	-1	-7	-10	-15	-14	-7	-6	-1	-1	-1	-1
6.5	-1	-1	-1	-1	-1	-11	-13	-15	-14	-13	-7	-1	-1	-1	-1
5.5	-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-13	-1	-1	-1	-1
4.5	-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-15	-1	-1	-1	-1
3.5	1	1	1	1	15	15	15	15	15	-1	-1	-1	-1	-1	-1
2.5	1	1	1	1	14	14	15	15	15	15	5	1	1	1	1
1.5	1	1	1	1	1	14	15	15	14	1	1	1	1	1	1
0.5	1	1	1	1	1	1	15	15	14	1	1	1	1	1	1
-0.5	1	1	1	1	1	1	11	11	11	1	1	1	1	1	1
-1.5	1	1	1	1	1	6	8	9	5	1	1	1	1	1	1
-2.5	1	1	1	1	1	5	7	7	1	1	1	1	1	1	1
-3.5	1	1	1	1	1	1	6	6	1	1	1	1	1	1	1
-4.5	1	1	1	1	1	1	5	5	5	1	1	1	1	1	1
-5.5	1	1	1	1	1	1	4	5		1	1	1	1	1	1
-6.5	1	1	1	1	1	1	4	4	4	1	1	1	1	1	1
-7.5	1	1	1	1	1	1	4	4	1	1	1	1	1	1	1
-8.5	1	1	1	1	1	1	3	3	1	1	1	1	1	1	1
-9.5	1	1	1	1	1	1	3	3	1	1	1	1	1	1	1
-10.5	1	1	1	1	1	1	1	3	3	1	1	1	1	1	1
-11.5	1	1	1	1	1	1	1	3	3	1	1	1	1	1	1
-12.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-13.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-14.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-15.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Two-dimensional histogram of cell values as a function of $\Delta\phi$ (horizontal axis, ranging -7.5 to 7.5) and ΔR (vertical axis, ranging -15.5 to 15.5).

$\Delta R \backslash \Delta\phi$	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7
15.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
14.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-3	-3	-3
13.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-3	-3	-3
12.5	-1	-1	-1	-1	-1	-1	-1	-11	-11	-1	-3	-4	-4	-3	-1
11.5	-1	-1	-1	-1	-1	-1	-1	-11	-11	-1	-5	-5	-5	-1	-1
10.5	-1	-1	-1	-1	-1	-1	-1	-5	-1	-1	-7	-7	-5	-1	-1
9.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-8	-8	-8	-5	-1	-1
8.5	-1	-1	-1	-1	-1	-1	-1	-1	-14	-10	-8	-8	-1	-1	-1
7.5	-1	-1	-1	-1	-1	-1	-1	-14	-14	-14	-13	-9	-1	-1	-1
6.5	-1	-1	-1	-1	-1	-1	-14	-14	-15	-15	-14	-9	-1	-1	-1
5.5	-1	-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-1	-1	-1	-1
4.5	1	1	1	2	15	15	-15	-15	-15	-15	-1	-1	-1	-1	-1
3.5	1	1	1	1	2	15	15	15	15	15	-1	-1	-1	-1	-1
2.5	1	1	1	1	14	15	15	15	15	15	1	1	1	1	1
1.5	1	1	1	1	14	14	14	15	15	14	1	1	1	1	1
0.5	1	1	1	1	1	1	14	15	15	13	1	1	1	1	1
-0.5	1	1	1	1	1	1	11	11	11	7	1	1	1	1	1
-1.5	1	1	1	1	1	1	9	11	10	1	1	1	1	1	1
-2.5	1	1	1	1	1	1	7	7	7	1	1	1	1	1	1
-3.5	1	1	1	1	1	4	6	6	6	1	1	1	1	1	1
-4.5	1	1	1	1	1	5	5	6	5	1	1	1	1	1	1
-5.5	1	1	1	1	1	4	5	4	1	1	1	1	1	1	1
-6.5	1	1	1	1	1	4	4	4	3	1	1	1	1	1	1
-7.5	1	1	1	1	1	4	4	4	1	1	1	1	1	1	1
-8.5	1	1	1	1	1	1	3	3	1	1	1	1	1	1	1
-9.5	1	1	1	1	1	3	3	1	1	1	1	1	1	1	1
-10.5	1	1	1	1	3	3	3	3	1	1	1	1	1	1	1
-11.5	1	1	1	1	3	3	3	3	1	1	1	1	1	1	1
-12.5	1	1	1	1	1	3	3	3	1	1	1	1	1	1	1
-13.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-14.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

2D histogram of bin contents as a function of $\Delta\phi$ (horizontal) and ΔR (vertical).

ΔR \ $\Delta\phi$	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7
15.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
14.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-3	-1	-1	-1
13.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-3	-3	-3	-1
12.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-4	-4	-1
11.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-5	-5	-4	-1
10.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-6	-6	-6	-1	-1
9.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-7	-7	-7	-6	-1	-1
8.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-13	-11	-9	-5	-1	-1
7.5	-1	-1	-1	-1	-1	-1	-13	-13	-13	-13	-13	-12	-1	-1	-1
6.5	-1	-1	-1	-1	-1	-1	-13	-15	-15	-15	-15	-12	-1	-1	-1
5.5	-1	-1	-1	-1	-1	-14	-15	-15	-15	-15	-15	-12	-1	-1	-1
4.5	1	1	1	1	15	15	-15	-15	-15	-15	-1	-1	-1	-1	-1
3.5	1	1	1	1	15	15	15	15	15	-15	-1	-1	-1	-1	-1
2.5	1	1	1	1	15	15	15	15	15	15	1	1	1	1	1
1.5	1	1	1	1	13	15	15	15	15	1	1	1	1	1	1
0.5	1	1	1	1	9	14	14	15	14	1	1	1	1	1	1
-0.5	1	1	1	1	9	11	11	10	1	1	1	1	1	1	1
-1.5	1	1	1	1	7	8	8	10	7	1	1	1	1	1	1
-2.5	1	1	1	1	7	7	7	1	1	1	1	1	1	1	1
-3.5	1	1	1	1	6	6	7	1	1	1	1	1	1	1	1
-4.5	1	1	1	5	6	6	5	4	1	1	1	1	1	1	1
-5.5	1	1	1	1	5	5	4	1	1	1	1	1	1	1	1
-6.5	1	1	1	1	4	4	4	1	1	1	1	1	1	1	1
-7.5	1	1	1	1	3	4	4	1	1	1	1	1	1	1	1
-8.5	1	1	1	1	1	3	4	3	1	1	1	1	1	1	1
-9.5	1	1	1	1	1	3	3	1	1	1	1	1	1	1	1
-10.5	1	1	1	1	1	3	3	1	1	1	1	1	1	1	1
-11.5	1	1	1	1	3	3	3	1	1	1	1	1	1	1	1
-12.5	1	1	1	3	3	3	1	1	1	1	1	1	1	1	1
-13.5	1	1	1	3	3	1	1	1	1	1	1	1	1	1	1
-14.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

ΔR

Δφ

ΔR (vertical axis); Δφ (horizontal axis)

Vertical axis labels (top to bottom): 15.5, 14.5, 13.5, 12.5, 11.5, 10.5, 9.5, 8.5, 7.5, 6.5, 5.5, 4.5, 3.5, 2.5, 1.5, 0.5, −0.5, −1.5, −2.5, −3.5, −4.5, −5.5, −6.5, −7.5, −8.5, −9.5, −10.5, −11.5, −12.5, −13.5, −14.5, −15.5

Horizontal axis labels: −7.5, −6.5, −5.5, −4.5, −3.5, −2.5, −1.5, −0.5, 0.5, 1.5, 2.5, 3.5, 4.5, 5.5, 6.5, 7.5

ΔR \ Δφ	−7	−6	−5	−4	−3	−2	−1	0	1	2	3	4	5	6	7
15	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
14	-1	-2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-3	-3
13	-1	-2	-2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-3	-3	-3
12	-1	-2	-2	-2	-1	-1	-1	-1	-1	-1	-1	-3	-3	-3	-3
11	-1	-1	-1	-2	-1	-1	-1	-1	-1	-1	-3	-4	-4	-3	-1
10	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-4	-5	-5	-1	-1
9	-1	-1	-1	-1	-1	-1	-1	-1	-9	-8	-7	-6	-5	-1	-1
8	-1	-1	-1	-1	-1	-1	-10	-10	-9	-8	-8	-4	-1	-1	-1
7	-1	-1	-1	-1	-1	-1	-10	-14	-14	-12	-8	-1	-1	-1	-1
6	-1	-1	-1	-1	-1	-13	-14	-15	-15	-12	-10	-1	-1	-1	-1
5	-1	-1	-1	-1	-14	-15	-15	-15	-15	-15	-15	-9	-1	-1	-1
4	1	1	1	14	15	15	-15	-15	-15	-15	-1	-1	-1	-1	-1
3	1	1	1	15	15	15	15	15	15	-1	-1	-1	-1	-1	-1
2	1	1	1	14	15	15	15	15	15	1	1	1	1	1	1
1	1	1	1	14	14	14	15	15	14	1	1	1	1	1	1
0	1	1	1	9	9	11	14	13	9	1	1	1	1	1	1
-1	1	1	1	1	8	8	9	9	7	5	1	1	1	1	1
-2	1	1	1	1	7	7	7	8	5	1	1	1	1	1	1
-3	1	1	1	1	1	5	7	7	7	1	1	1	1	1	1
-4	1	1	1	1	1	1	5	7	6	1	1	1	1	1	1
-5	1	1	1	1	1	1	5	5	1	1	1	1	1	1	1
-6	1	1	1	1	1	1	4	4	1	1	1	1	1	1	1
-7	1	1	1	1	1	1	3	3	1	1	1	1	1	1	1
-8	1	1	1	1	1	1	1	3	1	1	1	1	1	1	1
-9	1	1	1	1	1	1	3	1	1	1	1	1	1	1	1
-10	1	1	1	1	1	1	3	3	1	1	1	1	1	1	1
-11	1	1	1	1	1	1	3	3	1	1	1	1	1	1	1
-12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-13	1	1	1	1	1	1	3	1	1	1	1	1	1	1	1
-14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

ΔR vs $\Delta\phi$

-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-3	-3
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-3	-3
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-3	-3	-1
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-5	-5	-3	-1
-1	-1	-1	-1	-1	-1	-1	-1	-9	-1	-5	-6	-5	-1	-1
-1	-1	-1	-1	-1	-1	-1	-1	-9	-7	-7	-7	-5	-1	-1
-1	-1	-1	-1	-1	-1	-1	-14	-11	-9	-8	-6	-1	-1	-1
-1	-1	-1	-1	-1	-1	-14	-15	-13	-11	-9	-5	-1	-1	-1
-1	-1	-1	-1	-1	-1	-11	-15	-15	-15	-15	-9	-1	-1	-1
-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-15	-11	-1	-1	-1
1	1	1	1	15	15	15	-15	-15	-15	-1	-1	-1	-1	
1	1	1	1	15	15	15	15	15	15	-1	-1	-1	-1	-1
1	1	1	1	14	15	15	15	15	15	1	1	1	1	1
1	1	1	1	10	11	14	15	15	14	1	1	1	1	1
1	1	1	1	5	11	13	14	14	14	1	1	1	1	1
1	1	1	1	1	7	9	11	10	1	1	1	1	1	1
1	1	1	1	1	7	8	9	7	1	1	1	1	1	1
1	1	1	1	1	6	7	7	1	1	1	1	1	1	1
1	1	1	1	1	4	6	5	4	1	1	1	1	1	1
1	1	1	1	1	4	5	4	1	1	1	1	1	1	1
1	1	1	1	1	1	4	4	4	1	1	1	1	1	1
1	1	1	1	1	3	4	4	1	1	1	1	1	1	1
1	1	1	1	1	3	4	3	1	1	1	1	1	1	1
1	1	1	1	1	3	3	3	1	1	1	1	1	1	1
1	1	1	1	1	1	3	1	1	1	1	1	1	1	1
1	1	1	1	1	3	3	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

$\Delta\phi$: -7.5, -6.5, -5.5, -4.5, -3.5, -2.5, -1.5, -0.5, 0.5, 1.5, 2.5, 3.5, 4.5, 5.5, 6.5, 7.5

ΔR: 15.5, 14.5, 13.5, 12.5, 11.5, 10.5, 9.5, 8.5, 7.5, 6.5, 5.5, 4.5, 3.5, 2.5, 1.5, 0.5, -0.5, -1.5, -2.5, -3.5, -4.5, -5.5, -6.5, -7.5, -8.5, -9.5, -10.5, -11.5, -12.5, -13.5, -14.5, -15.5

ΔR

Δφ

ΔR

Δφ

ΔR

15.5
14.5
13.5
12.5
11.5
10.5
9.5
8.5
7.5
6.5
5.5
4.5
3.5
2.5
1.5
0.5
−0.5
−1.5
−2.5
−3.5
−4.5
−5.5
−6.5
−7.5
−8.5
−9.5
−10.5
−11.5
−12.5
−13.5
−14.5
−15.5

−7.5 −6.5 −5.5 −4.5 −3.5 −2.5 −1.5 −0.5 0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5 Δφ

Figure: 2D histogram of ΔR (vertical axis) versus $\Delta\phi$ (horizontal axis).

Vertical axis label: ΔR, with tick labels from top to bottom: 15.5, 14.5, 13.5, 12.5, 11.5, 10.5, 9.5, 8.5, 7.5, 6.5, 5.5, 4.5, 3.5, 2.5, 1.5, 0.5, −0.5, −1.5, −2.5, −3.5, −4.5, −5.5, −6.5, −7.5, −8.5, −9.5, −10.5, −11.5, −12.5, −13.5, −14.5, −15.5

Horizontal axis label: $\Delta\phi$, with tick labels: −7.5, −6.5, −5.5, −4.5, −3.5, −2.5, −1.5, −0.5, 0.5, 1.5, 2.5, 3.5, 4.5, 5.5, 6.5, 7.5

Cell values (top rows to bottom rows):

2	2	2	2	1	1	−1	−1	−1	−1	−1	−1	−1	−3	−3
3	3	2	2	1	1	−1	−1	−1	−1	−1	−1	−1	−3	−3
3	3	2	1	1	1	−1	−1	−1	−1	−1	−1	−3	−3	−3
2	2	1	1	1	1	−1	−1	−1	−1	−1	−1	−3	−3	−1
1	1	1	1	1	1	−1	−1	−1	−1	■	−5	−5	−3	−1
1	1	1	1	1	1	−1	−1	−1	−1	−5	−6	−5	−1	−1
1	1	1	1	1	1	−1	−1	−9	−9	−7	−7	−6	−1	−1
1	1	1	1	1	1	−1	−9	−11	−13	−9	−9	−5	−1	−1
1	1	1	1	1	1	−1	−15	−15	−13	−13	−10	−1	−1	−1
1	1	1	1	1	1	−10	−15	−15	−15	−15	−11	−1	−1	−1
1	1	1	1	1	1	15	−15	−15	−15	−15	−1	−1	−1	−1
1	1	1	1	1	15	15	15	−15	−15	−15	−1	−1	−1	−1
1	1	1	1	2	15	15	15	15	15	−1	−1	−1	−1	−1
1	1	1	2	11	15	15	15	15	15	1	1	1	1	1
1	1	1	3	10	13	15	15	15	1	1	1	1	1	1
1	1	1	2	7	10	14	14	11	1	1	1	1	1	1
1	1	1	2	5	8	9	10	9	1	1	1	1	1	1
1	1	1	3	6	7	8	7	1	1	1	1	1	1	1
1	1	1	3	4	7	6	6	1	1	1	1	1	1	1
1	1	1	1	4	5	6	5	1	1	1	1	1	1	1
1	1	1	1	4	4	5	5	1	1	1	1	1	1	1
1	1	1	1	1	4	4	4	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	3	3	1	1	1	1	1	1	1	1
1	1	1	1	3	3	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Plot of a two-dimensional histogram with axis labels ΔR (vertical) and $\Delta\phi$ (horizontal).

ΔR \\ $\Delta\phi$	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7
15.5	1	3	3	3	1	1	1	-1	-1	-1	-1	-1	-1	-1	-1
14.5	1	3	3	3	3	1	1	-1	-1	-1	-1	-1	-1	-3	-3
13.5	1	3	3	3	3	2	1	-1	-1	-1	-1	-1	-3	-3	-3
12.5	1	3	3	3	3	1	1	-1	-1	-1	-1	-3	-3	-3	-1
11.5	1	3	3	3	3	1	1	-1	-1	-1	-1	-5	-5	-1	-1
10.5	1	3	3	3	1	1	1	-1	-1	-1	-1	-5	-5	-1	-1
9.5	1	3	3	3	1	1	1	-1	-1	-10	-7	-7	-5	-1	-1
8.5	1	1	3	3	1	1	1	-1	-14	-14	-10	-9	-6	-1	-1
7.5	1	1	3	3	1	1	1	-1	-14	-14	-14	-12	-6	-1	-1
6.5	1	1	1	3	1	1	1	-14	-15	-15	-15	-12	-1	-1	-1
5.5	1	1	1	4	14	15	-15	-15	-15	-15	-12	-1	-1	-1	-1
4.5	1	1	1	5	15	15	15	-15	-15	-15	-1	-1	-1	-1	-1
3.5	1	1	14	15	15	15	15	15	15	-15	-1	-1	-1	-1	-1
2.5	1	1	1	6	14	15	15	15	15	15	1	1	1	1	1
1.5	1	1	1	1	6	10	14	15	10	1	1	1	1	1	1
0.5	1	1	1	1	1	7	9	7	1	1	1	1	1	1	1
-0.5	1	1	1	1	1	4	7	6	1	1	1	1	1	1	1
-1.5	1	1	1	1	3	3	3	3	1	1	1	1	1	1	1
-2.5	1	1	1	1	3	3	3	1	1	1	1	1	1	1	1
-3.5	1	1	1	1	1	3	3	1	1	1	1	1	1	1	1
-4.5	1	1	1	1	1	3	3	1	1	1	1	1	1	1	1
-5.5	1	1	1	1	3	3	3	1	1	1	1	1	1	1	1
-6.5	1	1	1	1	1	3	3	1	1	1	1	1	1	1	1
-7.5	1	1	1	1	1	3	1	1	1	1	1	1	1	1	1
-8.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-9.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-10.5	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1
-11.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-12.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-13.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-14.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-15.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

ΔR

Δφ

Heatmap of values as a function of $\Delta\phi$ (x-axis) and ΔR (y-axis).

ΔR \ $\Delta\phi$															
15.5	1	3	3	3	1	1	1	-1	-1	-1	-1	-1	-1	-3	-3
14.5	1	3	3	3	1	1	1	-1	-1	-1	-1	-1	-1	-3	-3
13.5	1	3	3	3	3	1	1	-1	-1	-1	-1	-1	-1	-3	-3
12.5	1	3	3	4	2	1	1	-1	-1	-1	-1	-4	-4	-4	-1
11.5	1	3	5	5	1	1	1	-1	-1	-1	-1	-5	-5	-4	
10.5	1	4	5	5	1	1	1	-1	-1	-1	-1	-6	-6	■	-1
9.5	1	1	4	5	1	1	1	-1	-1	-1	-7	-7	-6	-1	-1
8.5	1	4	4	5	5	1	1	-1	-14	-14	-11	-11	-7	-1	-1
7.5	1	1	4	5	4	1	1	-15	-14	-14	-13	-12	-1	-1	-1
6.5	1	1	4	4	4	1	14	15	-15	-15	-15	-14	-1	-1	-1
5.5	1	1	1	4	5	14	15	15	-15	-15	-15	-14	-1	-1	-1
4.5	1	1	4	9	15	15	15	15	15	-15	-15	-1	-1	-1	
3.5	1	1	1	15	15	15	15	15	15	15	-14	-1	-1	-1	
2.5	1	1	1	3	7	14	14	15	15	15	-1	-1	-1	-1	
1.5	1	1	1	1	6	10	1	1	1						
0.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	
-0.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	
-1.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	
-2.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	
-3.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	
-4.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	
-5.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	
-6.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	
-7.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	
-8.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	
-9.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	
-10.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	
-11.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	
-12.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	
-13.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	
-14.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	
-15.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	

x-axis: $\Delta\phi$ (ranging from -7.5 to 7.5)

ΔR

$\Delta \phi$

-7.5 -6.5 -5.5 -4.5 -3.5 -2.5 -1.5 -0.5 0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5

Scatter/heatmap figure. Axes: vertical ΔR (from -15.5 to 15.5 in steps of 1), horizontal $\Delta\phi$ (from -7.5 to 7.5). Cell values by row (center ΔR) across columns ($\Delta\phi$ centers -7 to 7):

ΔR \ $\Delta\phi$	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7
15	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
14	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-3	-3	-3
13	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-4	-4	-1	-1
12	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-5	-5	-5	-4	-1
11	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-5	-5	-1	-1
10	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-7	-7	-5	-1	-1
9	-1	-1	-1	-1	-1	-1	-1	-1	-1	-11	-10	-10	-5	-1	-1
8	-1	-1	-1	-1	-1	-1	-1	-1	-14	-14	-13	-11	-1	-1	-1
7	-1	-1	-1	-1	-1	-1	-1	-1	-14	-15	-13	-12	-1	-1	-1
6	-1	-1	-1	-1	-1	-1	-1	-14	-15	-15	-15	-13	-1	-1	-1
5	1	1	1	1	1	15	15	-15	-15	-15	-15	-14	-1	-1	-1
4	1	1	1	1	14	15	15	15	-15	-15	-15	-1	-1	-1	-1
3	1	1	1	14	15	15	15	15	15	15	-1	-1	-1	-1	-1
2	1	1	1	8	14	15	15	15	15	1	1	1	1	1	1
1	1	3	3	8	9	14	15	14	14	1	1	1	1	1	1
0	1	3	3	7	8	11	11	13	1	1	1	1	1	1	1
-1	1	1	3	7	7	8	9	1	1	1	1	1	1	1	1
-2	1	1	1	6	7	6	6	1	1	1	1	1	1	1	1
-3	1	1	3	5	5	4	1	1	1	1	1	1	1	1	1
-4	1	1	3	3	4	1	1	1	1	1	1	1	1	1	1
-5	1	1	3	3	3	1	1	1	1	1	1	1	1	1	1
-6	1	1	3	3	1	1	1	1	1	1	1	1	1	1	1
-7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-9	1	1	3	1	1	1	1	1	1	1	1	1	1	1	1
-10	1	1	2	3	1	1	1	1	1	1	1	1	1	1	1
-11	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1
-12	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1
-13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

ΔR

Δφ

Figure: 2D histogram of bin contents vs $\Delta\phi$ (x-axis) and ΔR (y-axis).

ΔR \ $\Delta\phi$	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7
15.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-3	-1
14.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-4	-4	-3	-1
13.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-5	-4	-4	-1	-1
12.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-5	-5	-6	-1	-1	-1
11.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-7	-7	-7	-7	-1	-1
10.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-12	-11	-7	-1	-1	-1
9.5	-1	-1	-1	-1	-1	-1	-1	-1	-13	-12	-11	-1	-1	-1	-1
8.5	-1	-1	-1	-1	-1	-1	-1	-15	-15	-13	-13	-1	-1	-1	
7.5	-1	-1	-1	-1	-1	-1	-14	-14	-15	-15	-15	-13	-1	-1	-1
6.5	-1	-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-12	-1	-1	-1
5.5	-1	-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-1	-1	1	1
4.5	-1	-1	-1	1	14	15	15	15	15	15	14	1	1	1	1
3.5	1	1	4	8	14	15	15	15	15	14	1	1	1	1	1
2.5	1	1	4	6	12	15	15	15	15	11	1	1	1	1	1
1.5	1	4	5	9	12	13	14	14	11	1	1	1	1	1	1
0.5	1	5	5	9	9	10	10	1	1	1	1	1	1	1	1
-0.5	1	3	7	7	8	9	9	1	1	1	1	1	1	1	1
-1.5	1	1	5	6	7	1	1	1	1	1	1	1	1	1	1
-2.5	1	1	4	4	1	1	1	1	1	1	1	1	1	1	1
-3.5	1	1	3	3	1	1	1	1	1	1	1	1	1	1	1
-4.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-5.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-6.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-7.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-8.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-9.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-10.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-11.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-12.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-13.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-14.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-15.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

ΔR

ΔφΔ

-1	-1	-3	-4	-3	-4	-1	-4	-4	-3	-1	-1	-3	-3	-1
-1	-1	-4	-4	-5	-5	-5	-4	-5	-5	-1	-1	-4	-3	-1
-1	-1	-4	-6	-6	-7	-6	-6	-6	-5	-4	-4	-4	-4	-1
-1	-1	-5	-7	-7	-7	-7	-7	-9	-7	-6	-7	-7	-4	-1
-1	-1	-1	-7	-9	-9	-9	-9	-13	-11	-11	-9	-7	■	-1
-1	-1	-1	-7	-9	-9	-9	-13	-14	-12	-11	-11	-8	-1	-1
-1	-1	-1	-7	-9	-9	-12	-14	-15	-15	-14	-12	-9	-1	-1
-1	-1	-1	-1	-11	-11	-12	-15	-15	-15	-15	-14	-1	-1	-1
-1	-1	-1	-1	-11	-14	-15	-15	-15	-15	-15	-14	-1	-1	-1
-1	-1	-1	-1	-14	-15	-15	-15	-15	-15	-15	-15	-1	-1	-1
-1	-1	-1	-1	-1	-14	-15	-15	-15	-15	-15	-1	-1	-1	-1
-1	-1	-1	-1	-1	15	15	15	15	15	1	1	1	1	1
1	1	1	1	1	15	15	15	15	15	2	1	1	1	1
1	1	1	1	1	1	9	14	14	2	1	1	1	1	1
1	1	1	1	1	1	8	7	1	1	1	1	1	1	1
1	1	1	1	1	1	3	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	2	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

ΔR axis: 15.5, 14.5, 13.5, 12.5, 11.5, 10.5, 9.5, 8.5, 7.5, 6.5, 5.5, 4.5, 3.5, 2.5, 1.5, 0.5, −0.5, −1.5, −2.5, −3.5, −4.5, −5.5, −6.5, −7.5, −8.5, −9.5, −10.5, −11.5, −12.5, −13.5, −14.5, −15.5

Δφ axis: −7.5, −6.5, −5.5, −4.5, −3.5, −2.5, −1.5, −0.5, 0.5, 1.5, 2.5, 3.5, 4.5, 5.5, 6.5, 7.5

ΔR vs $\Delta\phi$

ΔR \ $\Delta\phi$	-7.5	-6.5	-5.5	-4.5	-3.5	-2.5	-1.5	-0.5	0.5	1.5	2.5	3.5	4.5	5.5	6.5
15.5	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-3	-3	-1
14.5	1	1	3	1	1	1	1	1	-1	-1	-1	-1	-4	-4	-1
13.5	1	1	1	1	1	1	1	1	-1	-1	-1	-5	-6	-4	-1
12.5	1	1	1	1	1	1	1	1	-1	-1	-7	-7	-7	-1	-1
11.5	1	1	1	1	1	1	1	1	-1	-1	-9	-9	-7	-1	-1
10.5	1	1	1	1	1	1	1	1	-9	-9	-11	-10	-7	-1	-1
9.5	1	1	1	1	1	1	1	1	-11	-12	-13	-12	-6	-1	-1
8.5	1	1	1	1	1	1	12	15	-15	-15	-14	-13	-6	-1	-1
7.5	1	1	1	1	1	1	14	15	-15	-15	-15	-14	-1	-1	-1
6.5	1	1	1	1	1	1	15	15	-15	-15	-15	-14	-1	-1	-1
5.5	1	1	1	1	1	14	15	15	-15	-15	-15	-1	-1	-1	-1
4.5	1	1	1	1	14	15	15	15	15	-15	-14	-1	-1	-1	-1
3.5	1	1	1	10	12	15	15	15	15	-1	-1	-1	-1	-1	-1
2.5	1	1	1	5	12	14	15	14	1	-1	-1	-1	-1	-1	-1
1.5	1	1	1	1	3	9	7	1	1	-1	-1	-1	-1	-1	-1
0.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1
-0.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1
-1.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1
-2.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1
-3.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1
-4.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1
-5.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1
-6.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1
-7.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1
-8.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1
-9.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1
-10.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1
-11.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1
-12.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1
-13.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1
-14.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1
-15.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1

ΔR

Δφ

-7.5 -6.5 -5.5 -4.5 -3.5 -2.5 -1.5 -0.5 0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5

Figure: 2D histogram of counts versus $\Delta\phi$ (x-axis, bins from -7.5 to 7.5) and ΔR (y-axis, bins from -15.5 to 15.5).

ΔR \ $\Delta\phi$	-7.5	-6.5	-5.5	-4.5	-3.5	-2.5	-1.5	-0.5	0.5	1.5	2.5	3.5	4.5	5.5	6.5
15.5	-1	-1	-1	-4	-4	-4	-4	-4	-5	-1	-1	-3	-4	-4	-1
14.5	-1	-1	-1	-5	-6	-6	-5	-5	-5	-6	-5	-4	-4	-4	-1
13.5	-1	-1	-1	-6	-7	-7	-7	-7	-6	-7	-6	-7	-6	-4	-1
12.5	-1	-1	-1	-7	-8	-8	-8	-8	-12	-10	-8	-8	-7	-5	-1
11.5	-1	-1	-1	-7	-9	-9	-11	-12	-14	-14	-14	-12	-7	-6	-1
10.5	-1	-1	-1	-9	-9	-9	-11	-11	-14	-14	-14	-12	-8	-1	-1
9.5	-1	-1	-1	-1	-1	-1	-9	-15	-15	-15	-14	-14	-1	-1	-1
8.5	-1	-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-14	-1	-1	-1
7.5	-1	-1	-1	-1	-15	-15	-15	-15	-15	-15	-15	-12	-1	-1	-1
6.5	-1	-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-6	-1	-1	1
5.5	-1	-1	-1	-1	1	1	15	15	15	15	14	6	1	1	1
4.5	1	1	1	1	1	1	15	15	15	15	12	1	1	1	1
3.5	1	1	1	1	1	1	14	15	15	15	8	1	1	1	1
2.5	1	1	1	1	1	1	13	14	14	8	1	1	1	1	1
1.5	1	1	1	1	1	1	10	12	12	1	1	1	1	1	1
0.5	1	1	1	1	1	1	1	7	7	1	1	1	1	1	1
-0.5	1	1	1	1	1	1	2	3	1	1	1	1	1	1	1
-1.5	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1
-2.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-3.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-4.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-5.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-6.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-7.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-8.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-9.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-10.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-11.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-12.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-13.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-14.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-15.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Plot of cell values in the ΔR (vertical) versus $\Delta\phi$ (horizontal) plane.

$\Delta R \backslash \Delta\phi$	−7	−6	−5	−4	−3	−2	−1	0	1	2	3	4	5	6	7
15	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1	−3	−3	−1
14	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1	−5	−4	−1
13	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1	−7	−6	−1	−1	−1
12	−1	−1	−1	−1	−1	−1	−1	−1	−1	−8	−8	−6	−1	−1	−1
11	−1	−1	−1	−1	−1	−1	−1	−1	−1	−13	−13	−12	−7	−1	−1
10	−1	−1	−1	−1	−1	−1	−1	−11	−11	−15	−13	−12	−1	−1	−1
9	−1	−1	−1	−1	−1	−1	−1	−11	−15	−15	−15	−12	−1	−1	−1
8	−1	−1	−1	−1	−1	−1	−15	−15	−15	−15	−14	−1	−1	−1	−1
7	−1	−1	−1	−1	−1	−15	−15	−15	−15	−15	−14	−1	−1	−1	−1
6	−1	−1	−1	−1	−1	−15	−15	−15	−15	−15	−1	1	1	1	1
5	−1	−1	1	1	1	15	15	15	15	15	1	1	1	1	1
4	1	1	1	15	15	15	15	15	1	1	1	1	1	1	1
3	1	1	8	14	15	15	15	15	1	1	1	1	1	1	1
2	1	1	11	13	14	15	15	14	1	1	1	1	1	1	1
1	1	1	10	11	11	13	13	1	1	1	1	1	1	1	1
0	1	1	6	8	8	9	10	1	1	1	1	1	1	1	1
−1	1	1	7	7	7	8	1	1	1	1	1	1	1	1	1
−2	1	1	7	7	1	1	1	1	1	1	1	1	1	1	1
−3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
−4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
−5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
−6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
−7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
−8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
−9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
−10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
−11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
−12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
−13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
−14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
−15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

ΔR

Δφ

ΔR

$\Delta\phi$

ΔR

Δφ

ΔR

Δφ

Figure: 2D histogram of ΔR versus $\Delta\phi$.

ΔR \ $\Delta\phi$	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7
15	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-5	-5	-4	-1
14	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-6	-6	-5	-1
13	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-6	-7	-7	-1	-1
12	-1	-1	-1	-1	-1	-1	-1	-1	-9	-6	-12	-11	-7	-1	-1
11	-1	-1	-1	-1	-1	-1	-1	-1	-9	-14	-14	-13	-1	-1	-1
10	-1	-1	-1	-1	-1	-1	-1	-1	-14	-15	-14	-13	-1	-1	-1
9	-1	-1	-1	-1	-1	-1	-1	-14	-15	-15	-15	-14	-1	-1	-1
8	-1	-1	-1	-1	-1	-1	-14	-15	-15	-15	-15	-14	-1	-1	-1
7	-1	-1	-1	-1	-1	-1	-12	-15	-15	-15	-15	-1	-1	-1	-1
6	-1	-1	-1	-1	-1	-12	-14	-15	-15	-15	-1	-1	-1	-1	-1
5	-1	-1	-1	-1	-15	15	15	15	15	15	1	1	1	1	1
4	1	1	1	15	15	15	15	15	15	1	1	1	1	1	1
3	1	1	1	15	14	15	15	15	1	1	1	1	1	1	1
2	1	1	1	1	13	14	14	15	1	1	1	1	1	1	1
1	1	1	1	1	13	13	12	1	1	1	1	1	1	1	1
0	1	1	1	1	1	11	11	1	1	1	1	1	1	1	1
-1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

ΔR

Δφ

Axis labels (x): −7.5, −6.5, −5.5, −4.5, −3.5, −2.5, −1.5, −0.5, 0.5, 1.5, 2.5, 3.5, 4.5, 5.5, 6.5, 7.5

Axis labels (y): 15.5, 14.5, 13.5, 12.5, 11.5, 10.5, 9.5, 8.5, 7.5, 6.5, 5.5, 4.5, 3.5, 2.5, 1.5, 0.5, −0.5, −1.5, −2.5, −3.5, −4.5, −5.5, −6.5, −7.5, −8.5, −9.5, −10.5, −11.5, −12.5, −13.5, −14.5, −15.5

1	1	1	1	1	1	1	1	-1	-1	-1	-4	-4	-1	-1
1	1	1	1	1	1	1	1	-1	-1	-4	-6	-6	-1	-1
1	1	1	1	1	1	1	1	-1	-1	-1	-7	-7	-1	-1
1	1	1	1	1	1	1	1	-1	-1	-9	-9	-7	-1	-1
1	1	1	1	1	1	1	1	-14	-14	-14	-14	-1	-1	-1
1	1	1	1	1	1	1	1	-14	-14	-14	-14	-1	-1	-1
1	1	1	1	1	1	1	15	-15	-15	-15	-12	-1	-1	-1
1	1	1	1	1	1	15	15	-15	-15	-15	-12	-1	-1	-1
1	1	1	1	1	1	15	15	-15	-15	-15	-1	-1	-1	-1
1	1	1	1	1	1	15	15	-15	-15	-15	-1	-1	-1	-1
1	1	1	15	15	15	15	15	-1	-1	-1	-1	-1	-1	-1
1	1	1	14	15	15	15	15	15	-1	-1	-1	-1	-1	-1
1	1	1	14	15	15	15	15	-1	-1	-1	-1	-1	-1	-1
1	1	11	13	14	15	15	1	-1	-1	-1	-1	-1	-1	-1
1	1	7	12	13	14	14	1	-1	-1	-1	-1	-1	-1	-1
1	1	9	10	11	11	1	1	-1	-1	-1	-1	-1	-1	-1
1	7	8	9	9	1	1	1	-1	-1	-1	-1	-1	-1	-1
1	7	7	7	1	1	1	1	-1	-1	-1	-1	-1	-1	-1
1	7	7	1	1	1	1	1	-1	-1	-1	-1	-1	-1	-1
1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1	-1
1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1	-1
1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1	-1
1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1	-1
1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1	-1
1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1	-1
1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1	-1
1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1	-1
1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1	-1
1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1	-1
1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1	-1
1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1

ΔR

Δϕ

ΔR

Δφ

ΔR (y-axis) vs Δφ (x-axis) two-dimensional histogram.

Δφ →	-7.5	-6.5	-5.5	-4.5	-3.5	-2.5	-1.5	-0.5	0.5	1.5	2.5	3.5	4.5	5.5	6.5
15.5	1	1	1	1	1	1	1	1	-1	-1	-1	■	-4	-1	-1
14.5	1	1	1	1	1	1	1	1	-1	-1	-1	-7	-7	-1	-1
13.5	1	1	1	1	1	1	1	1	-1	-1	-7	-8	-7	-1	-1
12.5	1	1	1	1	1	1	1	1	-1	-10	-9	-9	-7	-1	-1
11.5	1	1	1	1	1	1	1	10	-15	-15	-15	-13	-1	-1	-1
10.5	1	1	1	1	1	1	1	15	-15	-15	-15	-14	-1	-1	-1
9.5	1	1	1	1	1	1	1	15	-15	-15	-15	-14	-1	-1	-1
8.5	1	1	1	1	1	1	15	15	-15	-15	-15	-1	-1	-1	-1
7.5	1	1	1	1	1	1	15	15	-15	-15	-15	-1	-1	-1	-1
6.5	1	1	1	1	1	1	15	15	-15	-15	-1	-1	-1	-1	-1
5.5	1	1	1	1	1	15	15	15	15	-15	-1	-1	-1	-1	-1
4.5	1	1	1	14	15	15	15	15	15	-1	-1	-1	-1	-1	-1
3.5	1	1	1	14	14	15	15	15	15	-1	-1	-1	-1	-1	-1
2.5	1	1	1	12	12	14	14	14	1	-1	-1	-1	-1	-1	-1
1.5	1	1	1	8	11	13	13	1	1	-1	-1	-1	-1	-1	-1
0.5	1	1	1	8	10	11	1	1	1	-1	-1	-1	-1	-1	-1
-0.5	1	1	1	1	8	7	1	1	1	-1	-1	-1	-1	-1	-1
-1.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1
-2.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1
-3.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1
-4.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1
-5.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1
-6.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1
-7.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1
-8.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1
-9.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1
-10.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1
-11.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1
-12.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1
-13.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1
-14.5	1	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1

ΔR

Δφ

ΔR

Δφ	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7
15.5	1	1	1	1	1	1	1	1	-1	-1	-1	-5	-4	-1	-1
14.5	1	1	1	1	1	1	1	1	-1	-1	-5	-5	-5	-1	-1
13.5	1	1	1	1	1	1	1	1	-1	-1	-1	-7	-6	-1	-1
12.5	1	1	1	1	1	1	1	9	-13	-1	-9	-9	-7	-1	-1
11.5	1	1	1	1	1	1	1	1	-14	-14	-14	-13	-1	-1	-1
10.5	1	1	1	1	1	1	1	1	-14	-14	-14	-14	-1	-1	-1
9.5	1	1	1	1	1	1	14	15	-15	-15	-15	-7	-1	-1	-1
8.5	1	1	1	1	1	1	14	15	-15	-15	-15	-14	-1	-1	-1
7.5	1	1	1	1	1	1	1	15	-15	-15	-15	-1	-1	-1	-1
6.5	1	1	1	1	1	15	15	15	-15	-1	-1	-1	-1	-1	-1
5.5	1	1	1	15	15	15	15	15	-15	-1	-1	-1	-1	-1	-1
4.5	1	1	1	14	15	15	15	15	15	-1	-1	-1	-1	-1	-1
3.5	1	1	1	8	14	15	15	15	15	-1	-1	-1	-1	-1	-1
2.5	1	1	1	9	11	13	14	15	12	-1	-1	-1	-1	-1	-1
1.5	1	1	1	1	12	13	13	1	1	-1	-1	-1	-1	-1	-1
0.5	1	1	1	9	11	11	11	1	1	-1	-1	-1	-1	-1	-1
-0.5	1	1	1	9	9	10	1	1	1	-1	-1	-1	-1	-1	-1
-1.5	1	1	6	7	8	1	1	1	1	-1	-1	-1	-1	-1	-1
-2.5	1		6	7	7	1	1	1	1	-1	-1	-1	-1	-1	-1
-3.5	1	6	6	6	1	1	1	1	1	-1	-1	-1	-1	-1	-1
-4.5	1	5	6	6	1	1	1	1	1	-1	-1	-1	-1	-1	-1
-5.5	1	5	5	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1
-6.5		5	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1
-7.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1
-8.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1
-9.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1
-10.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1
-11.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1
-12.5	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1
-13.5	1	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1
-14.5	1	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1
-15.5	1	1	1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1

Δφ

ΔR / Δφ heatmap

ΔR \ Δφ	-7.5	-6.5	-5.5	-4.5	-3.5	-2.5	-1.5	-0.5	0.5	1.5	2.5	3.5	4.5	5.5	6.5
15.5	-1	-1	-4	-4	-5	-4	-1	-5	-5	-5	-5	-6	-5	-1	-1
14.5	-1	-1	-4	-5	-6	-5	-5	-5	-6	-7	-6	-7	-6		-1
13.5	-1	-1	-1	-1	-7	-7	-7	-8	-8	-8	-8	-8	-7	-1	-1
12.5	-1	-1	-1	-1	-7	-8	-8	-9	-15	-15	-14	-14	-8	-1	-1
11.5	-1	-1	-1	-1	-1	-8	-12	-15	-15	-15	-14	-14	-10	-1	-1
10.5	-1	-1	-1	-1	-1	-1	-14	-15	-15	-15	-15	-14	-1	-1	-1
9.5	-1	-1	-1	-1	-1	-14	-15	-15	-15	-15	-15	-14	-1	-1	-1
8.5	-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-15	-14	-1	-1	-1
7.5	-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-15	-1	-1	-1	-1
6.5	-1	-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-1	-1	-1	-1
5.5	-1	-1	-1	-1	-1	15	15	15	15	15	1	1	1	1	1
4.5	1	1	1	1	1	14	15	15	15	15	14	1	1	1	1
3.5	1	1	1	1	1	15	15	15	15	14	1	1	1	1	1
2.5	1	1	1	1	12	15	15	15	1	1	1	1	1	1	1
1.5	1	1	1	1	1	1	13	13	11	1	1	1	1	1	1
0.5	1	1	1	1	1	1	11	11	1	1	1	1	1	1	1
-0.5	1	1	1	1	1	1	9	9	6	1	1	1	1	1	1
-1.5	1	1	1	1	1	7	7	7	1	1	1	1	1	1	1
-2.5	1	1	1	1	1	1	7	7	1	1	1	1	1	1	1
-3.5	1	1	1	1	1	1	7	7	1	1	1	1	1	1	1
-4.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-5.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-6.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-7.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-8.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-9.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-10.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-11.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-12.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-13.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-14.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-15.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

ΔR

ΔΦ

ΔR vs Δφ heatmap (bin-by-bin values).

ΔR \ Δφ	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7
15	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-5	-4	-1	-1
14	-1	-1	-1	-1	-1	-1	-1	-1	-1	■	-5	-6	-5	-1	-1
13	-1	-1	-1	-1	-1	-1	-1	-1	-1	-7	-9	-8	-6	-1	-1
12	-1	-1	-1	-1	-1	-1	-1	-1	-14	-9	-9	-1	-1	-1	-1
11	-1	-1	-1	-1	-1	-1	-1	-12	-15	-14	-14	-12	-1	-1	-1
10	-1	-1	-1	-1	-1	-1	-1	-14	-15	-15	-15	-13	-1	-1	-1
9	-1	-1	-1	-1	-1	-1	-14	-15	-15	-15	-15	-14	-1	-1	-1
8	-1	-1	-1	-1	-1	-14	-15	-15	-15	-15	-15	-14	-1	-1	-1
7	-1	-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-3	-1	-1	-1
6	-1	-1	-1	-1	-1	-1	-14	-15	-15	-15	-1	-1	-1	1	1
5	-1	-1	-1	1	1	14	15	15	15	15	1	1	1	1	1
4	1	1	1	14	15	15	15	15	1	1	1	1	1	1	1
3	1	1	1	14	15	15	15	15	1	1	1	1	1	1	1
2	1	1	1	14	14	15	15	14	1	1	1	1	1	1	1
1	1	1	1	9	10	14	14	14	1	1	1	1	1	1	1
0	1	1	1	9	10	11	12	1	1	1	1	1	1	1	1
-1	1	1	6	9	9	10	9	1	1	1	1	1	1	1	1
-2	1	1	1	8	9	8	1	1	1	1	1	1	1	1	1
-3	1	1	7	8	1	1	1	1	1	1	1	1	1	1	1
-4	1	1	7	7	1	1	1	1	1	1	1	1	1	1	1
-5	1	5	6	1	1	1	1	1	1	1	1	1	1	1	1
-6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

ΔR

Δφ

ΔR vs Δφ heatmap

Columns (Δφ): -7.5, -6.5, -5.5, -4.5, -3.5, -2.5, -1.5, -0.5, 0.5, 1.5, 2.5, 3.5, 4.5, 5.5, 6.5, 7.5

ΔR															
15.5	-1	-1	-1	-1	-1	-1	-6	-6	-1	-5	-6	-7	-7	-1	-1
14.5	-1	-1	-1	-1	-1	-1	-7	-7	-7	-6	-6	-8	-7	-1	-1
13.5	-1	-1	-1	-1	-1	-1	-8	-8	-9	-9	-8	-8	-7	-1	-1
12.5	-1	-1	-1	-1	-1	-8	-11	-11	-11	-10	-12	-12	-8	-1	-1
11.5	-1	-1	-1	-1	-1	-12	-12	-14	-15	-15	-14	-13	-1	-1	-1
10.5	-1	-1	-1	-1	-1	-12	-14	-14	-15	-15	-14	-13	-1	-1	-1
9.5	-1	-1	-1	-1	-1	-14	-14	-15	-15	-15	-15	-14	-9	-1	-1
8.5	-1	-1	-1	-1	-1	-14	-15	-15	-15	-15	-15	-13	-1	-1	-1
7.5	-1	-1	-1	-1	-1	-14	-15	-15	-15	-15	-15	-1	-1	-1	-1
6.5	-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-15	-1	-1	1	1
5.5	-1	-1	-1	1	1	15	15	15	15	15	1	1	1	1	1
4.5	1	1	1	1	1	15	15	15	15	15	1	1	1	1	1
3.5	1	1	1	1	1	15	15	15	15	15	14	1	1	1	1
2.5	1	1	1	1	1	1	14	15	15	14	1	1	1	1	1
1.5	1	1	1	1	1	1	12	14	14	10	1	1	1	1	1
0.5	1	1	1	1	1	1	11	11	11	9	1	1	1	1	1
-0.5	1	1	1	1	1	1	9	9	9	1	1	1	1	1	1
-1.5	1	1	1	1	1	1	8	9	6	1	1	1	1	1	1
-2.5	1	1	1	1	1	1	4	8	6	1	1	1	1	1	1
-3.5	1	1	1	1	1	1	4	6	6	1	1	1	1	1	1
-4.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-5.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-6.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-7.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-8.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-9.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-10.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-11.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-12.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-13.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-14.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-15.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

$\Delta\phi$

Δφ vs ΔR heatmap (cell values)

ΔR \ Δφ	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7
15	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-5	-5	-1	-1
14	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-6	-6	-1	-1
13	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-9	-8	-6	-1	-1
12	-1	-1	-1	-1	-1	-1	-1	-9	-7	-12	-9	-9	-1	-1	-1
11	-1	-1	-1	-1	-1	-1	-12	-13	-12	-14	-13	-12	-1	-1	-1
10	-1	-1	-1	-1	-1	-1	-13	-13	-14	-14	-14	-14	-1	-1	-1
9	-1	-1	-1	-1	-1	-1	-14	-14	-15	-15	-15	-14	-1	-1	-1
8	-1	-1	-1	-1	-1	-12	-15	-15	-15	-15	-15	-1	-1	-1	-1
7	-1	-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-1	-1	-1	-1
6	-1	-1	-1	-1	-1	-1	-15	-15	-15	-15	-1	-1	1	1	1
5	-1	-1	1	15	15	15	15	15	1	1	1	1	1	1	1
4	1	1	1	15	15	15	15	15	1	1	1	1	1	1	1
3	1	1	1	15	15	15	15	15	1	1	1	1	1	1	1
2	1	1	1	14	14	15	15	15	1	1	1	1	1	1	1
1	1	1	1	11	1	14	14	15	1	1	1	1	1	1	1
0	1	1	1	7	9	12	12	1	1	1	1	1	1	1	1
-1	1	1	1	7	10	10	10	1	1	1	1	1	1	1	1
-2	1	1	1	6	9	1	1	1	1	1	1	1	1	1	1
-3	1	1	1	6	1	1	1	1	1	1	1	1	1	1	1
-4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

ΔR (y-axis), Δφ (x-axis)

ΔR \ Δφ															
15.5	-1	-1	-1	-1	-1	-1	-6	-6	-7	-7	-7	-7	-7	-1	-1
14.5	-1	-1	-1	-1	-1	-1	-7	-7	-8	-7	-7	-7	-7	-5	-1
13.5	-1	-1	-1	-1	-1	-7	-7	-9	-9	-9	-8	-8	-7	-1	-1
12.5	-1	-1	-1	-1	-1	-1	-9	-11	-12	-13	-10	-10	-7	-1	-1
11.5	-1	-1	-1	-1	-1	-9	-11	-12	-14	-14	-14	-12	-1	-1	-1
10.5	-1	-1	-1	-1	-1	-1	-14	-14	-15	-15	-14	-13	-1	-1	-1
9.5	-1	-1	-1	-1	-1	-1	-14	-15	-15	-15	-15	-14	-1	-1	-1
8.5	-1	-1	-1	-1	-1	-14	-15	-15	-15	-15	-15	-14	-1	-1	-1
7.5	-1	-1	-1	-1	-1	-14	-15	-15	-15	-15	-15	-1	-1	-1	-1
6.5	-1	-1	-1	-1	-1	-1	-1	-15	-15	-15	-15	-1	-1	-1	1
5.5	-1	-1	-1	-1	1	1	1	15	15	15	1	1	1	1	1
4.5	1	1	1	1	14	15	15	15	15	15	1	1	1	1	1
3.5	1	1	1	1	15	15	15	15	15	15	1	1	1	1	1
2.5	1	1	1	1	15	15	15	15	15	15	1	1	1	1	1
1.5	1	1	1	1	1	13	14	14	14	1	1	1	1	1	1
0.5	1	1	1	1	1	12	14	14	12	1	1	1	1	1	1
-0.5	1	1	1	1	1	11	12	12	11	1	1	1	1	1	1
-1.5	1	1	1	1	1	8	9	11	9	1	1	1	1	1	1
-2.5	1	1	1	1	1	1	9	9	1	1	1	1	1	1	1
-3.5	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1
-4.5	1	1	1	1	1	1	6	6	1	1	1	1	1	1	1
-5.5	1	1	1	1	1	1	6	1	1	1	1	1	1	1	1
-6.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-7.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-8.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-9.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-10.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-11.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-12.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-13.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-14.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-15.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

ΔR (vertical axis), Δφ (horizontal axis)

ΔR \ Δφ	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7
15.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-5	-5	-1	-1
14.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-6	-6	-1	-1
13.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-6	-7	-6	-1	-1
12.5	-1	-1	-1	-1	-1	-1	-1	-9	-1	-11	-11	-11	-1	-1	-1
11.5	-1	-1	-1	-1	-1	-1	-10	-14	-14	-13	-12	-12	-1	-1	-1
10.5	-1	-1	-1	-1	-1	-1	-1	-15	-15	-15	-14	-12	-1	-1	-1
9.5	-1	-1	-1	-1	-1	-1	-1	-15	-15	-15	-15	-12	-1	-1	-1
8.5	-1	-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-1	-1	-1	-1
7.5	-1	-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-1	-1	-1	-1
6.5	-1	-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-1	-1	1	1
5.5	-1	-1	-1	1	1	1	1	15	15	1	1	1	1	1	1
4.5	1	1	1	14	15	15	15	15	15	1	1	1	1	1	1
3.5	1	1	1	14	15	15	15	15	15	1	1	1	1	1	1
2.5	1	1	1	14	14	15	15	15	15	1	1	1	1	1	1
1.5	1	1	1	14	13	13	14	14	1	1	1	1	1	1	1
0.5	1	1	1	12	12	13	13	13	1	1	1	1	1	1	1
-0.5	1	1	1	9	9	11	5	1	1	1	1	1	1	1	1
-1.5	1	1	6	9	9	9	1	1	1	1	1	1	1	1	1
-2.5	1	1	1	7	7	7	1	1	1	1	1	1	1	1	1
-3.5	1	1	1	1	6	1	6	1	1	1	1	1	1	1	1
-4.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-5.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-6.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-7.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-8.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-9.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-10.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-11.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-12.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-13.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-14.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-15.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

ΔR

ΔΦ

-7.5 -6.5 -5.5 -4.5 -3.5 -2.5 -1.5 -0.5 0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5

ΔR (y-axis) vs Δφ (x-axis) heatmap

	−7	−6	−5	−4	−3	−2	−1	0	1	2	3	4	5	6	7
15	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-4	-4	-1	-1
14	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-4	-5	-5	-1	-1
13	-1	-1	-1	-1	-1	-1	-1	-1	-1	-5	-5	-5	-5	-1	-1
12	-1	-1	-1	-1	-1	-1	-1	-1	-1	-7	-11	-9	-1	-1	-1
11	-1	-1	-1	-1	-1	-1	-1	-1	-13	-14	-12	-11	-1	-1	-1
10	-1	-1	-1	-1	-1	-1	-1	-1	-13	-14	-14	-12	-1	-1	-1
9	-1	-1	-1	-1	-1	-1	-1	-1	-14	-15	-14	-11	-1	-1	-1
8	-1	-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-1	-1	-1	-1
7	-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-15	-1	-1	-1	-1
6	-1	-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-1	-1	1	1
5	-1	-1	-1	1	1	15	15	15	15	15	1	1	1	1	1
4	1	1	1	6	15	15	15	15	15	15	1	1	1	1	1
3	1	1	1	14	15	15	15	15	15	15	1	1	1	1	1
2	1	1	1	13	14	14	15	15	15	1	1	1	1	1	1
1	1	1	1	12	12	13	14	14	14	1	1	1	1	1	1
0	1	1	1	10	11	11	11	12	12	1	1	1	1	1	1
-1	1	1	1	9	9	11	11	1	1	1	1	1	1	1	1
-2	1	1	1	7	9	9	1	1	1	1	1	1	1	1	1
-3	1	1	7	7	7	7	1	1	1	1	1	1	1	1	1
-4	1	1	6	7	7	1	1	1	1	1	1	1	1	1	1
-5	1	1	6	6	6	1	1	1	1	1	1	1	1	1	1
-6	1	1	5	6	1	1	1	1	1	1	1	1	1	1	1
-7		4	4	1	1	1	1	1	1	1	1	1	1	1	1
-8	1	4	4	1	1	1	1	1	1	1	1	1	1	1	1
-9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Scientific figure: 2D grid (heatmap) of ΔR (vertical axis) versus $\Delta\phi$ (horizontal axis). Cell values as read:

ΔR															
15.5	-1	-1	-1	-1	-1	-1	-5	-7	-7	-7	-7	-7	-6	-1	-1
14.5	-1	-1	-1	-1	-1	-1	-7	-7	-7	-8	-7	-7	-6	-1	-1
13.5	-1	-1	-1	-1	-1	-1	-7	-7	-9	-10	-9	-7	-5	-1	-1
12.5	-1	-1	-1	-1	-1	-1	-7	-10	-12	-11	-14	-12	-1	-1	-1
11.5	-1	-1	-1	-1	-1	-1	-7	-12	-14	-14	-14	-14	-1	-1	-1
10.5	-1	-1	-1	-1	-1	-1	-14	-14	-15	-15	-14	-14	-1	-1	-1
9.5	-1	-1	-1	-1	-1	-1	-14	-15	-15	-15	-14	-14	-1	-1	-1
8.5	-1	-1	-1	-1	-12	-15	-15	-15	-15	-15	-15	-10	-1	-1	-1
7.5	-1	-1	-1	-12	-14	-14	-15	-15	-15	-15	-15	-10	-1	-1	-1
6.5	-1	-1	-1	-1	-1	-1	-11	-15	-15	-15	-15	-1	-1	-1	-1
5.5	-1	-1	-1	-1	-1	-1	-11	-15	-15	-15	-1	-1	-1	-1	-1
4.5	-1	-1	-1	-1	-1	15	15	15	15	15	1	1	1	1	1
3.5	1	1	1	1	15	15	15	15	15	15	14	7	1	1	1
2.5	1	1	1	1	15	15	15	15	15	15	7	7	1	1	1
1.5	1	1	1	1	15	15	15	14	14	1	1	1	1	1	1
0.5	1	1	1	1	1	14	14	14	14	1	1	1	1	1	1
-0.5	1	1	1	1	1	12	12	12	9	1	1	1	1	1	1
-1.5	1	1	1	1	1	7	10	10	10	1	1	1	1	1	1
-2.5	1	1	1	1	1	7	7	8	8	1	1	1	1	1	1
-3.5	1	1	1	1	1	7	7	7	1	1	1	1	1	1	1
-4.5	1	1	1	1	1	1	▪	4	1	1	1	1	1	1	1
-5.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-6.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-7.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-8.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-9.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-10.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-11.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-12.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-13.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-14.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-15.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Horizontal axis ($\Delta\phi$): -7.5, -6.5, -5.5, -4.5, -3.5, -2.5, -1.5, -0.5, 0.5, 1.5, 2.5, 3.5, 4.5, 5.5, 6.5, 7.5

ΔR

Δφ

ΔR

ΔφΔφ

-7.5 -6.5 -5.5 -4.5 -3.5 -2.5 -1.5 -0.5 0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5

ΔR (vertical axis), Δφ (horizontal axis)

ΔR \ Δφ	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7
15	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-3	-3	-1	-1
14	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	■	-5	-4	-1	-1
13	-1	-1	-1	-1	-1	-1	-1	-1	-1	-6	-7	-7	-1	-1	-1
12	-1	-1	-1	-1	-1	-1	-1	-7	-6	-7	-10	-9	-1	-1	-1
11	-1	-1	-1	-1	-1	-1	-9	-15	-15	-11	-11	-10	-1	-1	-1
10	-1	-1	-1	-1	-1	-1	-11	-14	-15	-15	-14	-10	-1	-1	-1
9	-1	-1	-1	-1	-1	-1	-11	-15	-15	-15	-14	-14	-1	-1	-1
8	-1	-1	-1	-1	-1	-14	-14	-15	-15	-15	-15	-14	-1	-1	-1
7	-1	-1	-1	-1	-14	-15	-15	-15	-15	-15	-15	-1	-1	-1	-1
6	-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-15	-1	-1	-1	-1
5	-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-1	-1	-1	1	1
4	-1	-1	-1	15	15	15	15	15	15	1	1	1	1	1	1
3	1	1	1	15	15	15	15	15	15	13	1	1	1	1	1
2	1	1	14	15	15	15	15	15	15	15	1	1	1	1	1
1	1	1	1	15	15	14	15	15	15	1	1	1	1	1	1
0	1	1	12	12	12	14	14	14	11	1	1	1	1	1	1
-1	1	1	9	10	10	12	12	11	11	1	1	1	1	1	1
-2	1	1	1	9	10	10	10	1	1	1	1	1	1	1	1
-3	1	1	7	9	9	10	1	1	1	1	1	1	1	1	1
-4	1	1	1	7	9	7	1	1	1	1	1	1	1	1	1
-5	1	1	7	7	7	6	1	1	1	1	1	1	1	1	1
-6	1	6	6	6	1	1	1	1	1	1	1	1	1	1	1
-7	1	1	6	6	1	1	1	1	1	1	1	1	1	1	1
-8	1	4	5	1	1	1	1	1	1	1	1	1	1	1	1
-9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Heatmap of values as a function of $\Delta\phi$ (x-axis) and ΔR (y-axis).

ΔR \ $\Delta\phi$	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7
15.5	-1	-1	-1	-1	-1	-1	-1	-1	-7	-7	-6	-6	-1	-1	-1
14.5	-1	-1	-1	-1	-1	-1	-1	-1	-7	-7	-7	-7	-1	-1	-1
13.5	-1	-1	-1	-6	-1	-7	-7	-10	-11	-9	-9	-7	-1	-1	-1
12.5	-1	-1	-1	-1	-9	-9	-9	-11	-14	-14	-10	-10	-1	-1	-1
11.5	-1	-1	-1	-1	-9	-12	-12	-13	-14	-14	-13	-11	-1	-1	-1
10.5	-1	-1	-1	-1	-1	-12	-13	-14	-14	-14	-14	-11	-1	-1	-1
9.5	-1	-1	-1	-1	-12	-13	-14	-14	-15	-15	-14	-1	-1	-1	-1
8.5	-1	-1	-1	-1	-14	-15	-15	-15	-15	-15	-15	-1	-1	-1	-1
7.5	-1	-1	-1	-1	-14	-15	-15	-15	-15	-15	-15	-1	-1	-1	-1
6.5	-1	-1	-1	-1	-1	-1	-15	-15	-15	-15	-1	-1	-1	1	1
5.5	-1	-1	-1	-1	-1	-1	-9	-14	15	15	1	1	1	1	1
4.5	-1	-1	-1	1	1	9	9	14	15	15	9	1	1	1	1
3.5	1	1	1	15	14	15	15	15	15	15	1	1	1	1	1
2.5	1	1	15	15	15	15	15	15	15	15	1	1	1	1	1
1.5	1	1	1	15	14	15	15	15	15	15	1	1	1	1	1
0.5	1	1	1	1	1	14	14	15	15	15	1	1	1	1	1
-0.5	1	1	1	1	1	12	14	14	15	14	1	1	1	1	1
-1.5	1	1	1	1	1	11	12	12	14	14	1	1	1	1	1
-2.5	1	1	1	1	1	1	11	12	12	10	1	1	1	1	1
-3.5	1	1	1	1	1	1	9	10	10	8	1	1	1	1	1
-4.5	1	1	1	1	1	1	7	7	8	7	1	1	1	1	1
-5.5	1	1	1	1	1	1	1	7	6	1	1	1	1	1	1
-6.5	1	1	1	1	1	1	1	6	6	1	1	1	1	1	1
-7.5	1	1	1	1	1	1	1	6	6	1	1	1	1	1	1
-8.5	1	1	1	1	1	1	1	1	5	1	1	1	1	1	1
-9.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-10.5	1	1	1	1	1	1	1	1	4	1	1	1	1	1	1
-11.5	1	1	1	1	1	1	1	4	14	14	1	1	1	1	1
-12.5	1	1	1	1	1	1	1	1	4	1	1	1	1	1	1
-13.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-14.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-15.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

ΔR vs $\Delta\phi$

ΔR \ $\Delta\phi$	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7
15	-1	-1	■	-1	-1	-1	-1	-1	-4	-4	-5	-5	-1	-1	-1
14	-1	-1	-1	-1	-1	-1	-1	-1	-5	-5	-6	-6	-5	-1	-1
13	-1	-1	-1	-1	-1	-1	-1	-1	-7	-11	-9	-8	-1	-1	-1
12	-1	-1	-1	-1	-1	-6	-1	-1	-11	-11	-11	-8	-1	-1	-1
11	-1	-1	-1	-1	-1	-11	-14	-13	-11	-14	-14	-12	-1	-1	-1
10	-1	-1	-1	-1	-1	-1	-14	-14	-14	-14	-14	-12	-1	-1	-1
9	-1	-1	-1	-1	-1	-1	-14	-14	-14	-15	-14	-14	-1	-1	-1
8	-1	-1	-1	-1	-1	-14	-14	-15	-15	-15	-15	-1	-1	-1	-1
7	-1	-1	-1	-1	-1	-14	-15	-15	-15	-15	-15	-1	-1	-1	-1
6	-1	-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-1	-1	-1	-1
5	-1	-1	-1	-1	-1	-1	-15	-15	-15	-15	-1	1	1	1	1
4	-1	1	1	1	1	1	15	15	15	14	1	1	1	1	1
3	1	1	1	15	15	15	15	15	14	1	1	1	1	1	1
2	1	1	1	15	15	15	15	15	15	1	1	1	1	1	1
1	1	1	14	14	14	15	15	15	15	1	1	1	1	1	1
0	1	1	12	12	12	14	15	15	1	1	1	1	1	1	1
-1	1	1	1	11	12	13	14	14	15	1	1	1	1	1	1
-2	1	1	1	10	11	12	12	14	14	1	1	1	1	1	1
-3	1	1	8	9	10	11	11	1	1	1	1	1	1	1	1
-4	1	1	1	8	9	10	1	1	1	1	1	1	1	1	1
-5	1	1	7	7	9	1	1	1	1	1	1	1	1	1	1
-6	1	1	1	8	7	1	1	1	1	1	1	1	1	1	1
-7	1	1	1	1	7	1	1	1	1	1	1	1	1	1	1
-8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Figure: 2D histogram of ΔR (y-axis) versus $\Delta\phi$ (x-axis).

y-axis label: ΔR, ranging from 15.5 down to −15.5 in steps of 1.

x-axis label: $\Delta\phi$, ranging from −7.5 to 7.5.

ΔR \ $\Delta\phi$	−7.5	−6.5	−5.5	−4.5	−3.5	−2.5	−1.5	−0.5	0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5
15.5	−1	−1	−1	−1	−1	−1	−1	−1	−1	−4	−4	−4	−1	−1	−1	
14.5	−1	−1	−1	−1	−1	−1	−1	−1	−4	−6	−6	−6	−1	−1	−1	
13.5	−1	−1	−1	−1	−1	−1	−1	−6	−6	−7	−7	−7	−1	−1	−1	
12.5	−1	−1	−1	−1	−1	−1	−1	−13	−14	−9	−9	−9	−1	−1	−1	
11.5	−1	−1	−1	−1	−1	−1	−1	−13	−13	−14	−14	−11	−1	−1	−1	
10.5	−1	−1	−1	−1	−1	−1	−1	−11	−14	−14	−14	−11	−1	−1	−1	
9.5	−1	−1	−1	−1	−1	−1	−14	−14	−15	−15	−14	−12	−1	−1	−1	
8.5	−1	−1	−1	−1	−1	−14	−14	−14	−15	−15	−15	−1	−1	−1	−1	
7.5	−1	−1	−1	−1	−1	−15	−15	−15	−15	−15	−15	−1	−1	−1	−1	
6.5	−1	−1	−1	−1	−15	−1	−15	−15	−15	−15	−15	−1	−1	−1	−1	
5.5	−1	−1	−1	−1	−1	−15	−15	−15	−15	−15	−1	−1	1	1	1	
4.5	−1	−1	1	1	14	15	15	15	15	1	1	1	1	1	1	
3.5	1	1	15	15	15	15	15	15	15	1	1	1	1	1	1	
2.5	1	1	15	15	15	15	15	15	15	15	1	1	1	1	1	
1.5	1	1	1	14	14	14	15	15	15	14	1	1	1	1	1	
0.5	1	1	1	10	14	14	14	15	12	1	1	1	1	1	1	
−0.5	1	1	9	10	11	14	14	12	1	1	1	1	1	1	1	
−1.5	1	1	1	9	9	10	12	12	12	1	1	1	1	1	1	
−2.5	1	1	1	8	9	9	9	10	1	1	1	1	1	1	1	
−3.5	1	1	7	8	9	9	1	1	1	1	1	1	1	1	1	
−4.5	1	1	1	7	7	1	1	1	1	1	1	1	1	1	1	
−5.5	1	1	6	7	7	1	1	1	1	1	1	1	1	1	1	
−6.5	1	4	6	7	7	1	1	1	6	1	1	1	1	1	1	
−7.5	1	4	6	5	1	1	1	1	1	1	1	1	1	1	1	
−8.5	1	5	5	1	1	1	1	1	1	1	1	1	1	1	1	
−9.5	1	5	5	1	1	1	1	1	1	1	1	1	1	1	1	
−10.5	1	4	4	1	1	1	1	1	1	1	1	1	1	1	1	
−11.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
−12.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
−13.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
−14.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
−15.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	

ΔR vs Δφ

ΔR \ Δφ	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7
15.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-4	-3	-1	-1	-1
14.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-4	-4	-4	-1	-1	-1
13.5	-1	-1	-1	-1	-1	-1	-1	-1	-6	-6	-6	-1	-1	-1	-1
12.5	-1	-1	-1	-1	-1	-1	-1	-1	-6	-6	-8	-7	-1	-1	-1
11.5	-1	-1	-1	-1	-1	-1	-1	-11	-11	-9	-11	-9	-1	-1	-1
10.5	-1	-1	-1	-1	-1	-1	-1	-11	-11	-14	-11	-11	-1	-1	-1
9.5	-1	-1	-1	-1	-1	-1	-12	-13	-15	-14	-14	-11	-1	-1	-1
8.5	-1	-1	-1	-1	-1	-14	-14	-15	-15	-15	-15	-1	-1	-1	-1
7.5	-1	-1	-1	-1	-1	-14	-15	-15	-15	-15	-15	-1	-1	-1	-1
6.5	-1	-1	-1	-1	-14	-15	-15	-15	-15	-15	-15	-1	-1	-1	-1
5.5	-1	-1	-1	-1	-8	-15	-15	-15	-15	-15	-15	1	1	1	1
4.5	-1	1	1	1	15	15	15	15	15	15	1	1	1	1	1
3.5	1	1	1	15	15	15	15	15	15	15	1	1	1	1	1
2.5	1	1	1	15	15	15	15	15	15	9	1	1	1	1	1
1.5	1	1	1	12	13	15	15	15	15	9	1	1	1	1	1
0.5	1	1	1	11	12	13	14	14	12	7	1	1	1	1	1
-0.5	1	1	1	11	11	12	12	12	10	1	1	1	1	1	1
-1.5	1	1	1	9	10	11	10	10	1	1	1	1	1	1	1
-2.5	1	1	1	8	8	9	8	1	1	1	1	1	1	1	1
-3.5	1	1	7	7	7	7	7	1	1	1	1	1	1	1	1
-4.5	1	1	1	7	7	1	1	1	1	1	1	1	1	1	1
-5.5	1	1	6	7	7	1	1	1	1	1	1	1	1	1	1
-6.5	1	1	5	6	1	1	1	1	1	1	1	1	1	1	1
-7.5	1	5	5	5	1	1	1	1	1	1	1	1	1	1	1
-8.5	1	4	5	4	1	1	1	1	1	1	1	1	1	1	1
-9.5	1	4	4	1	1	1	1	1	1	1	1	1	1	1	1
-10.5	3	3	4	1	1	1	1	1	1	1	1	1	1	1	1
-11.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-12.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-13.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-14.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-15.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

ΔR (vertical axis), Δφ (horizontal axis)

ΔR \ Δφ	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7
15.5	-1	-1	-1	-1	-1	-1	-5	-7	-6	-6	-6	-6	-1	-1	-1
14.5	-1	-1	-1	-1	-1	-1	-7	-7	-7	-7	-7	-6	-1	-1	-1
13.5	-1	-1	-1	-1	-1	-1	-6	-7	-9	-9	-9	-8	-1	-1	-1
12.5	-1	-1	-1	-1	-1	-1	-10	-10	-12	-12	-9	-9	-1	-1	-1
11.5	-1	-1	-1	-1	-1	-9	-10	-13	-14	-14	-13	-1	-1	-1	-1
10.5	-1	-1	-1	-13	-9	-9	-13	-15	-15	-15	-14	-13	-1	-1	-1
9.5	-1	-1	-1	-13	-13	-14	-15	-15	-15	-15	-14	-1	-1	-1	-1
8.5	-1	-1	-1	-14	-14	-15	-15	-15	-15	-15	-15	-1	-1	-1	-1
7.5	-1	-1	-1	-14	-15	-15	-15	-15	-15	-15	-15	-1	-1	-1	-1
6.5	-1	-1	-1	-14	-1	-15	-15	-15	-15	-15	-15	-1	-1	-1	-1
5.5	-1	-1	-1	-1	-1	-1	-1	-15	-15	-15	-1	-1	-1	-1	-1
4.5	-1	-1	-1	-1	-1	-1	1	15	15	15	1	1	1	1	1
3.5	1	1	1	1	15	15	15	15	15	15	1	1	1	1	1
2.5	1	1	14	15	15	15	15	15	15	15	1	1	1	1	1
1.5	1	14	14	12	14	15	15	15	15	15	1	1	1	1	1
0.5	1	1	1	12	14	14	14	15	15	14	1	1	1	1	1
-0.5	1	1	1	12	14	14	14	14	14	14	1	1	1	1	1
-1.5	1	1	1	12	12	12	12	14	14	14	1	1	1	1	1
-2.5	1	1	1	1	1	11	11	12	13	1	1	1	1	1	1
-3.5	1	1	1	1	1	11	11	11	9	1	1	1	1	1	1
-4.5	1	1	1	1	9	9	10	10	1	1	1	1	1	1	1
-5.5	1	1	1	1	7	9	9	9	9	1	1	1	1	1	1
-6.5	1	1	1	1	7	8	9	9	1	1	1	1	1	1	1
-7.5	1	1	1	1	7	7	8	6	1	1	1	1	1	1	1
-8.5	1	1	1	1	7	7	6	1	1	1	1	1	1	1	1
-9.5	1	1	1	1	6	6	6	1	1	1	1	1	1	1	1
-10.5	1	1	1	1	1	6	6	5	1	1	1	1	1	1	1
-11.5	1	1	1	1	1	5	5	1	1	1	1	1	1	1	1
-12.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-13.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-14.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-15.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

ΔR (vertical axis), Δφ (horizontal axis)

Heatmap grid values (columns Δφ = −7 to 7; rows ΔR from top ≈15.5 down to −15.5):

ΔR	−7	−6	−5	−4	−3	−2	−1	0	1	2	3	4	5	6	7
15	−1	−1	−1	−1	−1	−1	−1	−1		−4	−5	−5	−1	−1	−1
14	−1	−1	−1	−1	−1	−1	−1	−1	−1	−5	−6	−6	−1	−1	−1
13	−1	−1	−1	−1	−1	−1	−1	−1	−7	−8	−8	−7	−1	−1	−1
12	−1	−1	−1	−1	−1	−1	−1	−1	−9	−11	−9	−7	−1	−1	−1
11	−1	−1	−1	−1	−1	−1	−1	−10	−11	−14	−14	−9	−1	−1	−1
10	−1	−1	−1	−1	−1	−1	−1	−12	−13	−14	−14	−1	−1	−1	−1
9	−1	−1	−1	−1	−1	−1	−14	−14	−14	−15	−14	−1	−1	−1	−1
8	−1	−1	−1	−1	−1	−15	−15	−15	−15	−15	−15	−14	−1	−1	−1
7	−1	−1	−1	−1	−1	−15	−15	−15	−15	−15	−15	−3	−1	−1	−1
6	−1	−1	−1	−1	−1	−15	−15	−15	−15	−15	−15	−3	−1	−1	−1
5	−1	−1	−1	−1	−1	−1	−15	−15	−15	−15	−1	−1	1	1	1
4	−1	−1	1	1	1	14	14	15	15	7	1	1	1	1	1
3	1	1	1	15	15	15	15	15	15	15	1	1	1	1	1
2	1	1	1	15	15	15	15	15	15	7	1	1	1	1	1
1	1	1	1	14	15	15	15	15	15	15	1	1	1	1	1
0	1	1	7	14	14	14	14	14	14	1	1	1	1	1	1
−1	1	1	1	12	12	13	14	14	12	1	1	1	1	1	1
−2	1	1	1	11	12	12	13	12	1	1	1	1	1	1	1
−3	1	1	1	1	9	11	12	11	1	1	1	1	1	1	1
−4	1	1	1	1	9	9	10	1	1	1	1	1	1	1	1
−5	1	1	1	7	8	9	1	1	1	1	1	1	1	1	1
−6	1	1	1	7	7	7	1	1	1	1	1	1	1	1	1
−7	1	1	1	7	7	1	1	1	1	1	1	1	1	1	1
−8	1	1	1	6	6	1	1	1	1	1	1	1	1	1	1
−9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
−10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
−11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
−12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
−13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
−14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
−15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

ΔR

Δφ

ΔR

ΔΦ

ΔR

Δφ

ΔR (vertical axis), Δφ (horizontal axis)

Axis labels:
- Vertical (ΔR): 15.5, 14.5, 13.5, 12.5, 11.5, 10.5, 9.5, 8.5, 7.5, 6.5, 5.5, 4.5, 3.5, 2.5, 1.5, 0.5, −0.5, −1.5, −2.5, −3.5, −4.5, −5.5, −6.5, −7.5, −8.5, −9.5, −10.5, −11.5, −12.5, −13.5, −14.5, −15.5
- Horizontal (Δφ): −7.5, −6.5, −5.5, −4.5, −3.5, −2.5, −1.5, −0.5, 0.5, 1.5, 2.5, 3.5, 4.5, 5.5, 6.5, 7.5

-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-4	-4	-1	-1	-1	
-1	-1	-1	-1	-1	-1	-1	-1	-6	-5	-5	-5	-1	-1	-1	
-1	-1	-1	-1	-1	-1	-1	-7	-6	-6	-6	-6	-1	-1	-1	
-1	-1	-1	-1	-1	-1	-1	-7	-7	-8	-9	-7	-1	-1	-1	
-1	-1	-1	-1	-1	-1	-1	-1	-8	-11	-9	-9	-1	-1	-1	
-1	-1	-1	-1	-1	-1	-1	-10	-14	-13	-12	-1	-1	-1	-1	
-1	-1	-1	-1	-1	-1	-11	-14	-14	-14	-13	-1	-1	-1	-1	
-1	-1	-1	-1	-7	-14	-15	-15	-15	-15	-14	-1	-1	-1	-1	
-1	-1	-1	-1	-7	-15	-15	-15	-15	-15	-15	-14	-1	-1	-1	
-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-15	-1	-1	-1	-1	
-1	-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	1	1	1	1	
-1	1	1	1	1	1	15	15	15	15	1	1	1	1	1	
1	1	1	1	15	15	15	15	15	15	1	1	1	1	1	
1	1	1	1	15	15	15	15	15	15	1	1	1	1	1	
1	1	1	11	14	14	15	15	15	14	1	1	1	1	1	
1	1	1	13	13	13	14	14	14	1	1	1	1	1	1	
1	1	1	10	11	11	13	14	13	1	1	1	1	1	1	
1	1	1	9	10	10	11	13	1	1	1	1	1	1	1	
1	1	1	9	8	9	9	7	1	1	1	1	1	1	1	
1	1	1	7	7	8	8	8	1	1	1	1	1	1	1	
1	1	1	6	7	7	8	1	1	1	1	1	1	1	1	
1	1	1	6	6	7	1	1	1	1	1	1	1	1	1	
1	1	5	5	6	1	1	1	1	1	1	1	1	1	1	
1	1	4	5	5	1	1	1	1	1	1	1	1	1	1	
1	1	5	5	1	1	1	1	1	1	1	1	1	1	1	
1	1	4	4	3	1	1	1	1	1	1	1	1	1	1	
1	4	4	4	1	1	1	1	1	1	1	1	1	1	1	
3	3	4	3	1	1	1	1	1	1	1	1	1	1	1	
3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	

ΔR vs Δφ heatmap

Δφ axis: -7.5 to 7.5; ΔR axis: -15.5 to 15.5

ΔR (vertical axis), Δφ (horizontal axis)

Vertical axis labels (top to bottom): 15.5, 14.5, 13.5, 12.5, 11.5, 10.5, 9.5, 8.5, 7.5, 6.5, 5.5, 4.5, 3.5, 2.5, 1.5, 0.5, −0.5, −1.5, −2.5, −3.5, −4.5, −5.5, −6.5, −7.5, −8.5, −9.5, −10.5, −11.5, −12.5, −13.5, −14.5, −15.5

Horizontal axis labels (left to right): −7.5, −6.5, −5.5, −4.5, −3.5, −2.5, −1.5, −0.5, 0.5, 1.5, 2.5, 3.5, 4.5, 5.5, 6.5, 7.5

ΔR															
15.5	-1	-1	-1	-1	-1	-1	-1	-1	-4	-4	-3	-1	-1	-1	
14.5	-1	-1	-1	-1	-1	-1	-1	-4	-5	-5	-3	-1	-1	-1	
13.5	-1	-1	-1	-1	-1	-1	-1	-5	-7	-6	-5	-1	-1	-1	
12.5	-1	-1	-1	-1	-1	-1	-6	-8	-8	-7	-6	-1	-1	-1	
11.5	-1	-1	-1	-1	-1	-7	-9	-9	-14	-14	-10	-1	-1	-1	
10.5	-1	-1	-1	-1	-1	-1	-9	-9	-14	-14	-13	-1	-1	-1	
9.5	-1	-1	-1	-1	-1	-1	-8	-11	-15	-14	-14	-10	-1	-1	-1
8.5	-1	-1	-1	-1	-1	-14	-14	-15	-15	-14	-1	-1	-1	-1	
7.5	-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-14	-1	-1	-1	
6.5	-1	-1	-1	-1	-15	-15	-15	-15	-15	-15	-15	-1	-1	-1	
5.5	-1	-1	-1	-1	-14	-15	-15	-15	-15	-1	-1	-1	-1	-1	
4.5	-1	-1	-1	-1	-1	-1	-14	15	15	1	1	1	1	1	1
3.5	1	1	1	1	15	15	15	15	15	15	1	1	1	1	1
2.5	1	1	1	1	15	15	15	15	15	15	6	1	1	1	1
1.5	1	1	1	11	15	15	15	15	15	6	1	1	1	1	1
0.5	1	1	1	1	13	14	14	14	14	14	1	1	1	1	1
-0.5	1	1	1	11	12	12	14	14	14	11	1	1	1	1	
-1.5	1	1	8	9	9	12	14	14	14	1	1	1	1	1	
-2.5	1	1	8	9	9	9	12	12	14	1	1	1	1	1	
-3.5	1	1	7	7	9	9	9	9	1	1	1	1	1	1	
-4.5	1	1	1	7	7	7	7	1	1	1	1	1	1	1	
-5.5	1	1	1	7	7	7	7	1	1	1	1	1	1	1	
-6.5	1	1	6	6	7	7	1	1	1	1	1	1	1	1	
-7.5	1	1	6	5	6	6	1	1	1	1	1	1	1	1	
-8.5	1	1	1	5	5	5	1	1	1	1	1	1	1	1	
-9.5	1	1	4	5	5	1	1	1	1	1	1	1	1	1	
-10.5	1	4	4	5	1	1	1	1	1	1	1	1	1	1	
-11.5	1	1	4	1	1	1	1	1	1	1	1	1	1	1	
-12.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
-13.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
-14.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
-15.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	

ΔR vs Δϕ grid (values per cell):

ΔR \ Δφ	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7
15	-1	-1	-1	-1	-1	-1	-1	-1	-1	-4	-4	-1	-1	-1	-1
14	-1	-1	-1	-1	-1	-1	-1	-1	-5	-5	-4	-3	-1	-1	-1
13	-1	-1	-1	-1	-1	-6	-6	-7	-6	-6	-4	-1	-1	-1	-1
12	-1	-1	-1	-1	-1	-1	-6	-7	-11	-8	-7	■	-1	-1	-1
11	-1	-1	-1	-1	-1	-7	-8	-9	-11	-11	-9	-1	-1	-1	-1
10	-1	-1	-1	-1	-1	-10	-11	-11	-14	-14	-9	-1	-1	-1	-1
9	-1	-1	-1	-1	-1	-10	-12	-12	-14	-14	-11	-1	-1	-1	-1
8	-1	-1	-1	-1	-1	-12	-14	-14	-15	-14	-14	-13	-1	-1	-1
7	-1	-1	-1	-1	-14	-14	-15	-15	-15	-15	-14	-14	-1	-1	-1
6	-1	-1	-1	-14	-14	-15	-15	-15	-15	-15	-14	-1	-1	-1	-1
5	-1	-1	-1	-10	-14	-15	-15	-15	-15	-15	-1	-1	-1	-1	-1
4	-1	-1	-1	-10	-14	-14	-15	-15	-15	-15	-1	-1	-1	-1	-1
3	1	1	1	5	15	15	15	15	15	15	1	1	1	1	1
2	1	1	14	14	15	15	15	15	15	14	7	1	1	1	1
1	1	1	14	14	15	15	15	15	15	14	7	1	1	1	1
0	1	1	1	11	14	14	14	15	15	14	1	1	1	1	1
-1	1	1	1	11	11	14	14	14	14	10	1	1	1	1	1
-2	1	1	1	11	11	11	11	14	10	1	1	1	1	1	1
-3	1	1	1	8	10	9	9	9	9	1	1	1	1	1	1
-4	1	1	1	1	7	8	9	9	9	1	1	1	1	1	1
-5	1	1	1	1	7	8	9	9	1	1	1	1	1	1	1
-6	1	1	1	1	6	7	7	7	1	1	1	1	1	1	1
-7	1	1	1	1	6	7	7	1	13	13	1	1	1	1	1
-8	1	1	1	5	6	6	4	1	1	1	1	1	1	1	1
-9	1	1	1	5	5	5	4	1	1	1	1	1	1	1	1
-10	1	1	1	5	5	4	1	1	1	1	1	1	1	1	1
-11	1	1	4	5	4	■	1	1	13	1	1	1	1	1	1
-12	1	3	4	4	1	1	1	1	1	1	1	1	1	1	1
-13	1	1	4	4	1	1	1	1	1	1	1	1	1	1	1
-14	1	1	3	3	1	1	1	1	1	1	1	1	1	1	1
-15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

ΔR (vertical axis) vs Δφ (horizontal axis)

ΔR \ Δφ	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7
15.5	-1	-1	-1	-1	-1	-1	-4	-5	-5	-5	-1	-1	-1	-1	-1
14.5	-1	-1	-1	-1	-1	-1	-4	-6	-7	-7	-5	-1	-1	-1	-1
13.5	-1	-1	-1	-1	-1	-1	-6	-7	-7	-7	-6	-1	-1	-1	-1
12.5	-1	-1	-1	-1	-1	-1	-6	-10	-10	-9	-8	-1	-1	-1	-1
11.5	-1	-1	-1	-1	-1	-8	-11	-10	-11	-11	-9	-1	-1	-1	-1
10.5	-1	-1	-1	-1	-11	-12	-11	-13	-14	-14	-11	-1	-1	-1	-1
9.5	-1	-1	-1	-11	-12	-12	-14	-14	-15	-15	-11	-1	-1	-1	-1
8.5	-1	-1	-1	-14	-13	-13	-14	-15	-15	-15	-11	-1	-1	-1	-1
7.5	-1	-1	-14	-14	-14	-15	-15	-15	-15	-15	-1	-1	-1	-1	-1
6.5	-1	-1	-1	-14	-15	-15	-15	-15	-15	-15	-1	-1	-1	-1	1
5.5	-1	-1	-1	-1	-1	-1	-15	-15	-15	-15	-12	1	1	1	1
4.5	-1	-1	-1	-1	-1	-1	-11	-15	15	15	1	1	1	1	1
3.5	-1	-1	-1	-14	1	14	14	15	15	15	1	1	1	1	1
2.5	-1	1	15	14	14	15	15	15	15	15	14	1	1	1	1
1.5	1	1	14	14	14	15	15	15	15	15	14	5	1	1	1
0.5	1	1	1	14	14	14	15	15	15	15	5	1	1	1	1
-0.5	1	1	1	12	1	13	13	15	15	14	1	1	1	1	1
-1.5	1	1	1	1	1	11	11	14	15	14	1	1	1	1	1
-2.5	1	1	1	1	1	1	9	14	14	11	1	1	1	1	1
-3.5	1	1	1	1	1	1	9	11	12	1	1	1	1	1	1
-4.5	1	1	1	1	1	1	9	9	11	9	1	1	1	1	1
-5.5	1	1	1	1	1	1	1	8	9	9	1	1	1	1	1
-6.5	1	1	1	1	1	1	7	7	9	7	1	1	1	1	1
-7.5	1	1	1	1	1	7	7	7	7	7	1	1	1	1	1
-8.5	1	1	1	1	1	1	7	7	7	1	1	1	1	1	1
-9.5	1	1	1	1	1	6	6	7	1	1	1	1	1	1	1
-10.5	1	1	1	1	1	5	6	6	6	5	1	1	1	1	1
-11.5	1	1	1	1	1		5	5	5	1	1	1	1	1	1
-12.5	1	1	1	1	1			5	5	1	1	1	1	1	1
-13.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-14.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

ΔR (vertical axis) vs **Δφ** (horizontal axis) — 2D grid of integer values

-1	-1	-1	-1	-1	-1	-5	-5	-5	-6	-4	-1	-1	-1	-1
-1	-1	-1	-1	-1	-1	-5	-5	-6	-6	-6	-1	-1	-1	-1
-1	-1	-1	-1	-1	-1	-1	-7	-7	-7	-7	-1	-1	-1	-1
-1	-1	-1	-1	-1	-1	-7	-8	-8	-10	-7	-1	-1	-1	-1
-1	-1	-1	-1	-1	-7	-9	-12	-12	-12	-10	-1	-1	-1	-1
-1	-1	-1	-1	-1	-1	-11	-12	-14	-13	-1	-1	-1	-1	-1
-1	-1	-1	-1	-1	-11	-12	-14	-14	-14	-13	-1	-1	-1	-1
-1	-1	-1	-12	-12	-12	-14	-14	-15	-15	-11	-1	-1	-1	-1
-1	-1	-1	-14	-15	-15	-15	-15	-15	-15	-14	-1	-1	-1	-1
-1	-1	-1	-1	-15	-15	-15	-15	-15	-15	-1	-1	-1	-1	-1
-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-1	-1	-1	-1	-1
-1	-1	-1	-1	-1	-1	-15	15	15	15	1	1	1	1	1
1	1	1	1	15	15	15	15	15	15	1	1	1	1	1
1	1	1	15	15	15	15	15	15	15	1	1	1	1	1
1	1	15	15	15	15	15	15	15	15	1	1	1	1	1
1	1	14	14	14	15	14	15	15	13	1	1	1	1	1
1	1	1	5	12	14	13	14	14	1	1	1	1	1	1
1	1	1	5	12	12	12	13	13	1	1	1	1	1	1
1	1	1	1	11	11	11	12	11	1	1	1	1	1	1
1	1	1	1	1	10	10	12	12	1	1	1	1	1	1
1	1	1	1	1	7	9	14	14	1	1	1	1	1	1
1	1	1	1	7	8	8	9	7	1	1	1	1	1	1
1	1	1	1	7	8	7	7	1	1	1	1	1	1	1
1	1	1	1	1	6	7	7	1	1	1	1	1	1	1
1	1	1	1	1	5	5	5	1	1	1	1	1	1	1
1	1	1	1	5	5	5	1	1	1	1	1	1	1	1
1	1	1	5	5	5	5	1	1	1	1	1	1	1	1
1	1	1	1	5	5	4	1	1	1	1	1	1	1	1
1	1	1	4	4	1	1	1	1	1	1	1	1	1	1
1	1	1	4	4	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

ΔR axis (top to bottom): 15.5, 14.5, 13.5, 12.5, 11.5, 10.5, 9.5, 8.5, 7.5, 6.5, 5.5, 4.5, 3.5, 2.5, 1.5, 0.5, −0.5, −1.5, −2.5, −3.5, −4.5, −5.5, −6.5, −7.5, −8.5, −9.5, −10.5, −11.5, −12.5, −13.5, −14.5, −15.5

Δφ axis (left to right): −7.5, −6.5, −5.5, −4.5, −3.5, −2.5, −1.5, −0.5, 0.5, 1.5, 2.5, 3.5, 4.5, 5.5, 6.5, 7.5

ΔR

Δφ

Y-axis (ΔR) values: 15.5, 14.5, 13.5, 12.5, 11.5, 10.5, 9.5, 8.5, 7.5, 6.5, 5.5, 4.5, 3.5, 2.5, 1.5, 0.5, −0.5, −1.5, −2.5, −3.5, −4.5, −5.5, −6.5, −7.5, −8.5, −9.5, −10.5, −11.5, −12.5, −13.5, −14.5, −15.5

X-axis (Δφ) values: −7.5, −6.5, −5.5, −4.5, −3.5, −2.5, −1.5, −0.5, 0.5, 1.5, 2.5, 3.5, 4.5, 5.5, 6.5, 7.5

Figure: 2D histogram of bin contents as a function of $\Delta\phi$ (horizontal axis) and ΔR (vertical axis).

ΔR (vertical axis, top to bottom): 15.5, 14.5, 13.5, 12.5, 11.5, 10.5, 9.5, 8.5, 7.5, 6.5, 5.5, 4.5, 3.5, 2.5, 1.5, 0.5, −0.5, −1.5, −2.5, −3.5, −4.5, −5.5, −6.5, −7.5, −8.5, −9.5, −10.5, −11.5, −12.5, −13.5, −14.5, −15.5

$\Delta\phi$ (horizontal axis): −7.5, −6.5, −5.5, −4.5, −3.5, −2.5, −1.5, −0.5, 0.5, 1.5, 2.5, 3.5, 4.5, 5.5, 6.5, 7.5

ΔR	−7.5	−6.5	−5.5	−4.5	−3.5	−2.5	−1.5	−0.5	0.5	1.5	2.5	3.5	4.5	5.5	6.5
15.5	−1	−1	−1	−1	−1	−1	−1	−1	−4	−4	−1	−1	−1	−1	−1
14.5	−1	−1	−1	−1	−1	−1	−1	−4	−5	−7	−1	−1	−1	−1	−1
13.5	−1	−1	−1	−1	−1	−1	−4	−6	−7	−7	−5	−1	−1	−1	−1
12.5	−1	−1	−1	−1	−1	−1	−1	−7	−8	−8	−7	−1	−1	−1	−1
11.5	−1	−1	−1	−1	−1	−1	−9	−9	−14	−14	−8	−1	−1	−1	−1
10.5	−1	−1	−1	−1	−1	−9	−12	−12	−15	−14	−8	−1	−1	−1	−1
9.5	−1	−1	−1	−1	−1	−12	−12	−13	−15	−14	−11	−1	−1	−1	−1
8.5	−1	−1	−1	−1	−1	−14	−14	−15	−15	−15	−1	−1	−1	−1	−1
7.5	−1	−1	−1	−1	−1	−15	−15	−15	−15	−15	−15	−1	−1	−1	−1
6.5	−1	−1	−1	−1	−15	−15	−15	−15	−15	−15	−15	−1	−1	−1	−1
5.5	−1	−1	−1	−1	−1	−15	−15	−15	−15	−15	−1	−1	−1	−1	−1
4.5	−1	−1	−1	−1	−1	−15	−15	−15	−15	−14	−1	−1	−1	−1	−1
3.5	1	1	1	15	15	15	15	15	15	15	1	1	1	1	1
2.5	1	1	1	15	15	15	15	15	15	15	1	1	1	1	1
1.5	1	1	1	12	15	15	15	15	15	15	1	1	1	1	1
0.5	1	1	1	12	14	14	14	15	15	14	1	1	1	1	1
−0.5	1	1	1	1	13	14	12	14	14	1	1	1	1	1	1
−1.5	1	1	1	1	11	12	11	12	12	9	1	1	1	1	1
−2.5	1	1	1	7	8	8	9	11	9	1	1	1	1	1	1
−3.5	1	1	1	7	8	8	9	7	1	1	1	1	1	1	1
−4.5	1	1	1	7	7	8	8	7	1	1	1	1	1	1	1
−5.5	1	1	1	1	7	7	7	1	1	1	1	1	1	1	1
−6.5	1	1	1	5	6	7	7	1	1	1	1	1	1	1	1
−7.5	1	1	1	5	6	6	7	1	1	1	1	1	1	1	1
−8.5	1	1	1	4	5	6	6	1	1	1	1	1	1	1	1
−9.5	1	1	1	5	5	5	1	1	1	1	1	1	1	1	1
−10.5	1	1	1	4	4	4	4	1	1	1	1	1	1	1	1
−11.5	1	1	3	4	3	3	1	1	1	1	1	1	1	1	1
−12.5	1	1	1	3	3	3	1	1	1	1	1	1	1	1	1
−13.5	1	1	3	3	1	1	1	1	1	1	1	1	1	1	1
−14.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

ΔR / Δφ heatmap

ΔR \ Δφ	-7.5	-6.5	-5.5	-4.5	-3.5	-2.5	-1.5	-0.5	0.5	1.5	2.5	3.5	4.5	5.5	6.5
15.5	-1	-1	-1	-1	-1	-1	-1	-4	-4	-4	-4	-1	-1	-1	-1
14.5	-1	-1	-1	-1	-1	-1	-1	-5	-5	-5	-5	-1	-1	-1	-1
13.5	-1	-1	-1	-1	-1	-1	-1	-6	-7	-6	-6	-1	-1	-1	-1
12.5	-1	-1	-1	-1	-1	-1	-7	-8	-8	-11	-7	-6	-1	-1	-1
11.5	-1	-1	-1	-1	-1	-7	-8	-8	-11	-11	-9	-1	-1	-1	-1
10.5	-1	-1	-1	-1	-1	-1	-9	-10	-11	-12	-11	-1	-1	-1	-1
9.5	-1	-1	-1	-1	-1	-1	-12	-14	-14	-14	-12	-1	-1	-1	-1
8.5	-1	-1	-1	-1	-1	-14	-14	-15	-15	-15	-14	-1	-1	-1	-1
7.5	-1	-1	-1	-1	-1	-14	-15	-15	-15	-15	-14	-1	-1	-1	-1
6.5	-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-14	-1	-1	-1	-1
5.5	-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-15	-1	-1	-1	-1
4.5	-1	-1	-1	-1	-15	-15	-15	-15	-15	-15	-1	-1	-1	-1	-1
3.5	1	1	1	1	15	15	15	15	15	15	1	1	1	1	1
2.5	1	1	1	14	15	15	15	15	15	15	1	1	1	1	1
1.5	1	1	12	12	14	15	15	15	15	15	1	1	1	1	1
0.5	1	1	1	12	12	14	14	15	15	14	1	1	1	1	1
-0.5	1	1	1	1	11	11	12	14	14	1	1	1	1	1	1
-1.5	1	1	1	1	8	9	11	14	11	11	1	1	1	1	1
-2.5	1	1	1	1	1	8	9	11	14	1	1	1	1	1	1
-3.5	1	1	1	1	6	8	9	14	14	1	1	1	1	1	1
-4.5	1	1	1	1	6	7	7	7	1	1	1	1	1	1	1
-5.5	1	1	1	6	6	7	7	7	1	1	1	1	1	1	1
-6.5	1	1	1	■	5	6	7	7	1	1	1	1	1	1	1
-7.5	1	1	1	1	5	5	5	5	1	1	1	1	1	1	1
-8.5	1	1	1	4	4	5	1	1	1	1	1	1	1	1	1
-9.5	1	1	1	4	4	4	4	1	1	1	1	1	1	1	1
-10.5	1	1	1	4	4	4	4	1	1	1	1	1	1	1	1
-11.5	1	1	1	4	4	1	1	1	1	1	1	1	1	1	1
-12.5	1	3	3	3	1	1	1	1	1	1	1	1	1	1	1
-13.5	1	3	3	3	1	1	1	1	1	1	1	1	1	1	1
-14.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Heatmap of values as a function of $\Delta\phi$ (horizontal axis) and ΔR (vertical axis).

ΔR \ $\Delta\phi$	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7
15.5	-1	-1	-1	-1	-1	-1	-4	-5	-5	-5	-1	-1	-1	-1	-1
14.5	-1	-1	-1	-1	-1	-1	-6	-6	-6	-6	-1	-1	-1	-1	-1
13.5	-1	-1	-1	-1	-7	-7	-6	-7	-8	-7	-6	-1	-1	-1	-1
12.5	-1	-1	-1	-1	-1	-8	-7	-8	-12	-12	-1	-1	-1	-1	-1
11.5	-1	-1	-1	-1	-8	-8	-11	-11	-14	-12	-1	-1	-1	-1	-1
10.5	-1	-1	-1	-1	-1	-9	-13	-13	-14	-13	-1	-1	-1	-1	-1
9.5	-1	-1	-1	-1	-1	-12	-13	-14	-15	-14	-1	-1	-1	-1	-1
8.5	-1	-1	-1	-1	-1	-15	-14	-14	-15	-15	-14	-1	-1	-1	-1
7.5	-1	-1	-1	-1	-15	-15	-15	-15	-15	-15	-14	-1	-1	-1	-1
6.5	-1	-1	-1	-15	-15	-15	-15	-15	-15	-15	-1	-1	-1	-1	-1
5.5	-1	-1	-1	-1	-15	-15	-15	-15	-15	-1	-1	-1	-1	-1	-1
4.5	-1	-1	-1	-1	-14	-1	-1	15	15	11	1	1	1	1	1
3.5	1	1	1	14	14	1	15	15	15	15	11	1	1	1	1
2.5	1	1	1	15	14	15	15	15	15	15	15	1	1	1	1
1.5	1	1	1	15	14	14	15	15	15	15	13	1	1	1	1
0.5	1	1	13	14	14	14	15	15	14	1	1	1	1	1	1
-0.5	1	1	1	13	13	14	14	15	14	1	1	1	1	1	1
-1.5	1	1	1	1	1	7	12	14	14	14	10	1	1	1	1
-2.5	1	1	1	1	1	10	12	13	12	1	1	1	1	1	1
-3.5	1	1	1	1	1	7	12	12	9	1	1	1	1	1	1
-4.5	1	1	1	1	1	7	9	12	9	1	1	1	1	1	1
-5.5	1	1	1	1	1	6	9	9	8	1	1	1	1	1	1
-6.5	1	1	1	1	1	5	5	7	8	7	1	1	1	1	1
-7.5	1	1	1	1	1	1	5	7	7	1	1	1	1	1	1
-8.5	1	1	1	1	1	1	1	7	7	1	1	1	1	1	1
-9.5	1	1	1	1	1	1	1	7	7	5	1	1	1	1	1
-10.5	1	1	1	1	1	1	4	6	7	5	5	1	1	1	1
-11.5	1	1	1	1	1	1	1	5	5	5	1	1	1	1	1
-12.5	1	1	1	1	1	1	1	4	4	4	1	1	1	1	1
-13.5	1	1	1	1	1	1	1	3	4	1	1	1	1	1	1
-14.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

ΔR

15.5
14.5
13.5
12.5
11.5
10.5
9.5
8.5
7.5
6.5
5.5
4.5
3.5
2.5
1.5
0.5
−0.5
−1.5
−2.5
−3.5
−4.5
−5.5
−6.5
−7.5
−8.5
−9.5
−10.5
−11.5
−12.5
−13.5
−14.5
−15.5

−7.5 −6.5 −5.5 −4.5 −3.5 −2.5 −1.5 −0.5 0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5   Δφ

Two-dimensional histogram, axis labels: vertical axis ΔR (range -15.5 to 15.5), horizontal axis $\Delta\phi$ (range -7.5 to 7.5).

ΔR	c1	c2	c3	c4	c5	c6	c7	c8	c9	c10	c11	c12	c13	c14	c15
15.5	-1	-1	-1	-1	-1	-1	-1	-4	-5	-4	-3	-1	-1	-1	-1
14.5	-1	-1	-1	-1	-1	-1	-1	-4	-5	-5	-4	-1	-1	-1	-1
13.5	-1	-1	-1	-1	-1	■	-1	-6	-7	-6	-5	-1	-1	-1	-1
12.5	-1	-1	-1	-1	-1	-1	-7	-10	-11	-7	-1	-1	-1	-1	-1
11.5	-1	-1	-1	-1	-1	-9	-10	-11	-11	-11	-12	-1	-1	-1	-1
10.5	-1	-1	-1	-1	-1	-9	-11	-12	-13	-12	-12	-1	-1	-1	-1
9.5	-1	-1	-1	-1	-1	-12	-14	-15	-15	-14	-11	-1	-1	-1	-1
8.5	-1	-1	-1	-1	-1	-14	-15	-15	-15	-15	-14	-1	-1	-1	-1
7.5	-1	-14	-14	-14	-14	-15	-15	-15	-15	-15	-14	-1	-1	-1	-1
6.5	-14	-14	-14	-1	-15	-15	-15	-15	-15	-15	-15	-1	-1	-1	-1
5.5	-1	-14	-1	-1	-15	-15	-15	-15	-15	-15	-15	1	1	1	1
4.5	-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-15	1	1	1	1
3.5	-1	-1	-1	-1	-1	-1	15	15	15	15	1	1	1	1	1
2.5	-1	1	1	1	1	1	15	15	15	15	1	1	1	1	1
1.5	1	1	1	1	14	15	15	15	15	15	1	1	1	1	1
0.5	1	1	1	14	13	15	15	15	15	15	1	1	1	1	1
-0.5	1	1	1	13	13	14	15	15	14	1	1	1	1	1	1
-1.5	1	1	1	12	12	13	15	15	14	1	1	1	1	1	1
-2.5	1	1	1	9	9	12	11	13	14	11	1	1	1	1	1
-3.5	1	1	1	7	9	9	11	11	13	1	1	1	1	1	1
-4.5	1	1	1	7	9	9	11	8	1	1	1	1	1	1	1
-5.5	1	1	1	6	7	7	8	8	1	1	1	1	1	1	1
-6.5	1	1	1	1	■	6	7	7	1	1	1	1	1	1	1
-7.5	1	1	1	1	1	6	6	7	5	1	1	1	1	1	1
-8.5	1	1	1	1	1	1	5	5	1	1	1	1	1	1	1
-9.5	1	1	1	1	1	4	4	4	1	1	1	1	1	1	1
-10.5	1	1	1	1	1	4	4	1	1	1	1	1	1	1	1
-11.5	1	1	1	1	4	4	4	1	1	1	1	1	1	1	1
-12.5	1	1	1	3	4	4	4	1	1	1	1	1	1	1	1
-13.5	1	1	1	3	3	4	3	1	1	1	1	1	1	1	1
-14.5	1	1	1	3	3	1	1	1	1	1	1	1	1	1	1
-15.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

ΔR

ΔΦ

Figure: 2D histogram of ΔR vs $\Delta\phi$.

- Y-axis: ΔR, bin edges from -15.5 to 15.5
- X-axis: $\Delta\phi$, bin edges from -7.5 to 7.5

ΔR \ $\Delta\phi$	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7
15	-1	-1	-1	-1	-1	-1	-1	-4	-6	-5	-1	-1	-1	-1	-1
14	-1	-1	-1	-1	-1	■	-6	-7	-7	-6	-1	-1	-1	-1	-1
13	-1	-1	-1	-1	-1	-6	-6	-7	-8	-7	-6	-1	-1	-1	-1
12	-1	-1	-1	-1	-1	-6	-7	-8	-9	-9	-7	-1	-1	-1	-1
11	-1	-1	-1	-1	-1	-9	-12	-12	-12	-11	-1	-1	-1	-1	-1
10	-1	-1	-1	-1	-1	-9	-13	-13	-14	-14	-13	-1	-1	-1	-1
9	-1	-1	-1	-1	-1	-13	-13	-15	-15	-14	-13	-1	-1	-1	-1
8	-1	-1	-1	-1	-14	-14	-15	-15	-15	-15	-14	-1	-1	-1	-1
7	-1	-1	-1	-1	-15	-15	-15	-15	-15	-15	-14	-1	-1	-1	-1
6	-1	-1	-1	-14	-15	-15	-15	-15	-15	-15	-1	-1	-1	-1	-1
5	-1	-1	-1	-1	-1	-1	-12	-15	-15	-15	1	1	1	1	1
4	1	1	1	1	1	1	15	15	15	15	1	1	1	1	1
3	1	1	1	1	15	15	15	15	15	15	1	1	1	1	1
2	1	1	1	15	15	15	15	15	15	15	1	1	1	1	1
1	1	1	1	15	15	15	15	15	15	15	1	1	1	1	1
0	1	1	1	1	11	14	14	14	15	14	1	1	1	1	1
-0.5	1	1	1	1	11	12	14	14	14	14	1	1	1	1	1
-1.5	1	1	1	1	1	11	11	14	14	1	1	1	1	1	1
-2.5	1	1	1	1	1	1	3	11	11	1	1	1	1	1	1
-3.5	1	1	1	1	1	1	3	10	10	9	1	1	1	1	1
-4.5	1	1	1	1	1	1	1	8	9	1	1	1	1	1	1
-5.5	1	1	1	1	1	1	7	7	7	6	1	1	1	1	1
-6.5	1	1	1	1	1	1	6	7	7	6	1	1	1	1	1
-7.5	1	1	1	1	1	1	6	7	6	1	1	1	1	1	1
-8.5	1	1	1	1	1	5	5	6	6	1	1	1	1	1	1
-9.5	1	1	1	1	4	4	5	5	5	1	1	1	1	1	1
-10.5	1	1	1	1	1	4	4	5	4	1	1	1	1	1	1
-11.5	1	1	1	1	1	4	4	4	1	1	1	1	1	1	1
-12.5	1	1	1	1	1	3	3	1	1	1	1	1	1	1	1
-13.5	1	1	1	1	2	3	1	1	1	1	1	1	1	1	1
-14.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

ΔR

-1	-1	-1	-1	-1	-4	-6	-6	-5	-5	-1	-1	-1	-1	-1
-1	-1	-1	-1	-1	-4	-6	-7	-7	-6	-5	-1	-1	-1	-1
-1	-1	-1	-1	-1	-1	-6	-7	-8	-9	-1	-1	-1	-1	-1
-1	-1	-1	-1	-1	-1	-1	-9	-10	-9	-9	-1	-1	-1	-1
-1	-1	-1	-1	-1	-1	-11	-12	-14	-13	-9	-1	-1	-1	-1
-1	-1	-1	-1	-1	-13	-14	-14	-15	-14	-1	-1	-1	-1	-1
-1	-1	-1	-1	-13	-13	-14	-15	-15	-14	-1	-1	-1	-1	-1
-1	-1	-1	-1	-13	-15	-15	-15	-15	-15	-1	-1	-1	-1	-1
-1	-1	-1	-13	-13	-15	-15	-15	-15	-15	-15	-1	-1	-1	-1
-1	-1	-1	-1	-15	-15	-15	-15	-15	-15	-14	-1	-1	-1	-1
-1	-1	-1	-1	-1	-1	-14	-15	-15	-14	-1	1	1	1	1
-1	1	1	1	1	1	1	15	15	15	1	1	1	1	1
1	1	1	1	1	1	15	15	15	15	1	1	1	1	1
1	1	1	1	1	15	15	15	15	15	15	1	1	1	1
1	1	1	1	1	15	15	15	15	15	14	1	1	1	1
1	1	1	1	1	15	15	15	15	14	1	1	1	1	1
1	1	1	1	1	14	14	15	14	1	1	1	1	1	1
1	1	1	1	1	12	13	14	13	1	1	1	1	1	1
1	1	1	1	1	11	12	12	12	1	1	1	1	1	1
1	1	1	1	1	11	11	11	10	1	1	1	1	1	1
1	1	1	1	1	8	9	9	1	1	1	1	1	1	1
1	1	1	1	1	1	8	8	7	1	1	1	1	1	1
1	1	1	1	1	7	7	7	7	1	1	1	1	1	1
1	1	1	1	1	6	6	7	7	1	1	1	1	1	1
1	1	1	1	1	1	6	6	6	1	1	1	1	1	1
1	1	1	1	1	1	6	5	1	1	1	1	1	1	1
1	1	1	1	1	1	5	5	4	1	1	1	1	1	1
1	1	1	1	1	4	4	4	4	1	1	1	1	1	1
1	1	1	1	1	1	4	4	4	1	1	1	1	1	1
1	1	1	1	1	1	1	4	3	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

$\Delta\phi$

ΔR

Δφ

ΔR

Δφ

ΔR (vertical axis), Δφ (horizontal axis)

-1	-1	-1	-1	-1	-1	-1	-5	-5	-4	-1	-1	-1	-1	-1
-1	-1	-1	-1	-1	-5	-6	-6	-7	-6	-1	-1	-1	-1	-1
-1	-1	-1	-1	-1	-6	-6	-7	-7	-7	-1	-1	-1	-1	-1
-1	-1	-1	-1	-1	-7	-7	-9	-12	-9	-1	-1	-1	-1	-1
-1	-1	-1	-1	-7	-9	-10	-13	-13	-12	-1	-1	-1	-1	-1
-1	-1	-1	-1	-1	-9	-13	-13	-14	-14	-1	-1	-1	-1	-1
-1	-1	-1	-1	-1	-12	-14	-14	-15	-15	-12	-1	-1	-1	-1
-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-14	-1	-1	-1	-1
-1	-1	-1	-1	-15	-15	-15	-15	-15	-15	-1	-1	-1	-1	-1
-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-1	-1	-1	-1	-1
-1	-1	-1	-1	-1	-1	-1	-15	-15	-15	1	1	1	1	1
-1	-1	-1	-1	-1	1	15	15	15	13	1	1	1	1	1
1	1	1	1	15	15	15	15	15	15	1	1	1	1	1
1	1	1	1	14	15	15	15	15	15	15	1	1	1	1
1	1	1	13	14	15	15	15	15	15	1	1	1	1	1
1	1	1	13	14	14	14	15	15	14	1	1	1	1	1
1	1	1	1	11	14	14	14	14	14	1	1	1	1	1
1	1	1	1	9	11	10	12	12	12	1	1	1	1	1
1	1	1	1	9	9	9	10	12	10	1	1	1	1	1
1	1	1	1	1	1	7	9	10	1	1	1	1	1	1
1	1	1	1	1	1	7	8	8	1	1	1	1	1	1
1	1	1	1	1	1	6	7	7	5	1	1	1	1	1
1	1	1	1	1	1	1	7	7	1	1	1	1	1	1
1	1	1	1	1	1	1	6	6	1	1	1	1	1	1
1	1	1	1	1	1	5	6	5	1	1	1	1	1	1
1	1	1	1	1	1	5	5	1	1	1	1	1	1	1
1	1	1	1	1	1	5	5	4	1	1	1	1	1	1
1	1	1	1	1	1	3	4	3	1	1	1	1	1	1
1	1	1	1	1	3	3	3	3	1	1	1	1	1	1
1	1	1	1	1	3	3	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

ΔR

Δφ

ΔR vs Δφ heatmap grid (values per cell):

ΔR \ Δφ	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7
15	-1	-1	-1	-1	-1	-1	-5	-6	-5	-1	-1	-1	-1	-1	-1
14	-1	-1	-1	-1	-1	-1	-6	-6	-7	-1	-1	-1	-1	-1	-1
13	-1	-1	-1	-1	-1	-1	-7	-8	-9	-7	-1	-1	-1	-1	-1
12	-1	-1	-1	-1	-1	-8	-10	-9	-13	-9	-1	-1	-1	-1	-1
11	-1	-1	-1	-1	-1	-11	-12	-14	-14	-13	-11	-1	-1	-1	-1
10	-1	-1	-1	-1	-1	-11	-12	-14	-14	-14	-14	-1	-1	-1	-1
9	-1	-1	-1	-1	-1	-11	-14	-15	-15	-15	-14	-1	-1	-1	-1
8	-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-1	-1	-1	-1	-1
7	-1	-1	-1	-1	-1	-15	-15	-15	-15	-15	-1	-1	-1	-1	-1
6	-1	-1	-1	-1	-1	-14	-15	-15	-15	-15	-1	-1	-1	-1	-1
5	-1	-1	-1	-1	-1	-1	-1	-15	-15	-1	-1	-1	1	1	1
4	-1	-1	1	1	1	1	1	15	15	15	1	1	1	1	1
3	1	1	1	1	1	15	15	15	15	15	13	1	1	1	1
2	1	1	1	14	15	15	15	15	15	15	1	1	1	1	1
1	1	1	14	14	15	15	15	15	15	15	1	1	1	1	1
0	1	1	1	14	14	14	14	14	15	14	13	1	1	1	1
-1	1	1	1	1	12	12	12	14	14	14	1	1	1	1	1
-2	1	1	1	1	1	1	12	12	14	13	1	1	1	1	1
-3	1	1	1	1	1	1	9	11	12	10	1	1	1	1	1
-4	1	1	1	1	1	1	9	10	10	10	1	1	1	1	1
-5	1	1	1	1	1	1	7	9	9	8	1	1	1	1	1
-6	1	1	1	1	1	1	7	8	7	7	1	1	1	1	1
-7	1	1	1	1	1	1	1	7	7	4	1	1	1	1	1
-8	1	1	1	1	1	1	1	7	7	1	1	1	1	1	1
-9	1	1	1	1	1	1	1	6	6	5	1	1	1	1	1
-10	1	1	1	1	1	1	1	6	5	1	1	1	1	1	1
-11	1	1	1	1	1	1	1	5	5	1	1	1	1	1	1
-12	1	1	1	1	1	1	1	5	5	1	1	1	1	1	1
-13	1	1	1	1	1	1	1	3	3	1	1	1	1	1	1
-14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

ΔR

ΔΦ

-1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1
-1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1
-1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1
-1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1
-1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1
-1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1
-1 -1 -1 -1 -1 -1 -14 -14 -14 -14 -1 -1 -1 -1 -1
-1 -1 -1 -1 -1 -1 -14 -15 -15 -15 -1 -1 -1 -1 -1
-1 -1 -1 -1 -1 -1 -14 -15 -15 -15 -1 -1 -1 -1 -1
-1 -1 -1 -1 -1 -1 -14 -15 -1 -1 -1 -1 -1 -1 -1
-1 -1 -1 -1 -1 -1 -1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 15 15 15 15 1 1 1 1 1
1 1 1 1 1 15 15 15 15 15 1 1 1 1 1
1 1 1 1 1 1 15 15 15 15 1 1 1 1 1
1 1 1 1 1 13 14 14 14 14 1 1 1 1 1
1 1 1 1 1 14 14 14 11 1 1 1 1 1
1 1 1 1 1 1 12 13 11 1 1 1 1 1
1 1 1 1 1 1 9 11 10 1 1 1 1 1
1 1 1 1 1 1 9 9 1 1 1 1 1
1 1 1 1 1 1 9 9 1 1 1 1 1
1 1 1 1 1 1 7 7 1 1 1 1 1
1 1 1 1 1 1 7 7 1 1 1 1 1
1 1 1 1 1 1 6 7 5 1 1 1 1 1
1 1 1 1 1 1 ■ 5 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 ■ 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1

ΔR (vertical axis), Δφ (horizontal axis)

Vertical axis labels (top to bottom): 15.5, 14.5, 13.5, 12.5, 11.5, 10.5, 9.5, 8.5, 7.5, 6.5, 5.5, 4.5, 3.5, 2.5, 1.5, 0.5, −0.5, −1.5, −2.5, −3.5, −4.5, −5.5, −6.5, −7.5, −8.5, −9.5, −10.5, −11.5, −12.5, −13.5, −14.5, −15.5

Horizontal axis labels: −7.5, −6.5, −5.5, −4.5, −3.5, −2.5, −1.5, −0.5, 0.5, 1.5, 2.5, 3.5, 4.5, 5.5, 6.5, 7.5

ΔR \ Δφ	−7	−6	−5	−4	−3	−2	−1	0	1	2	3	4	5	6	7
15	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1
14	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1
13	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1
12	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1
11	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1
10	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1	−1
9	−1	−1	−1	−1	−1	−1	−1	−14	−14	−14	−1	−1	−1	−1	−1
8	−1	−1	−1	−1	−1	−1	−14	−15	−15	−15	−1	−1	−1	−1	−1
7	−1	−1	−1	−1	−1	−1	−15	−15	−15	−1	−1	−1	−1	−1	1
6	−1	−1	−1	−1	−1	−1	−15	−15	−1	−1	1	1	1	1	
5	−1	−1	−1	−1	−1	−1	−15	−15	1	1	1	1	1	1	
4	−1	−1	−1	−1	−1	1	15	15	15	1	1	1	1	1	
3	−1	−1	−1	−1	1	15	15	15	15	15	1	1	1	1	
2	−1	1	1	1	1	15	15	15	15	15	1	1	1	1	
1	1	1	1	1	14	14	14	15	15	15	1	1	1	1	
0	1	1	1	1	14	14	14	14	14	1	1	1	1	1	
−1	1	1	1	1	1	1	12	14	14	13	1	1	1	1	
−2	1	1	1	1	1	9	11	12	12	9	1	1	1	1	
−3	1	1	1	1	1	1	9	12	12	9	1	1	1	1	
−4	1	1	1	1	1	1	9	9	1	1	1	1	1	1	
−5	1	1	1	1	1	1	9	9	1	1	1	1	1	1	
−6	1	1	1	1	1	1	7	7	1	1	1	1	1	1	
−7	1	1	1	1	1	1	7	7	1	1	1	1	1	1	
−8	1	1	1	1	1	1	6	6	1	1	1	1	1	1	
−9	1	1	1	1	1	1	5	6	1	1	1	1	1	1	
−10	1	1	1	1	1	1	1	5	1	1	1	1	1	1	
−11	1	1	1	1	1	1	4	4	1	1	1	1	1	1	
−12	1	1	1	1	1	1	4	4	1	1	1	1	1	1	
−13	1	1	1	1	1	1	3	3	1	1	1	1	1	1	
−14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
−15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	

ΔR

Δφ