

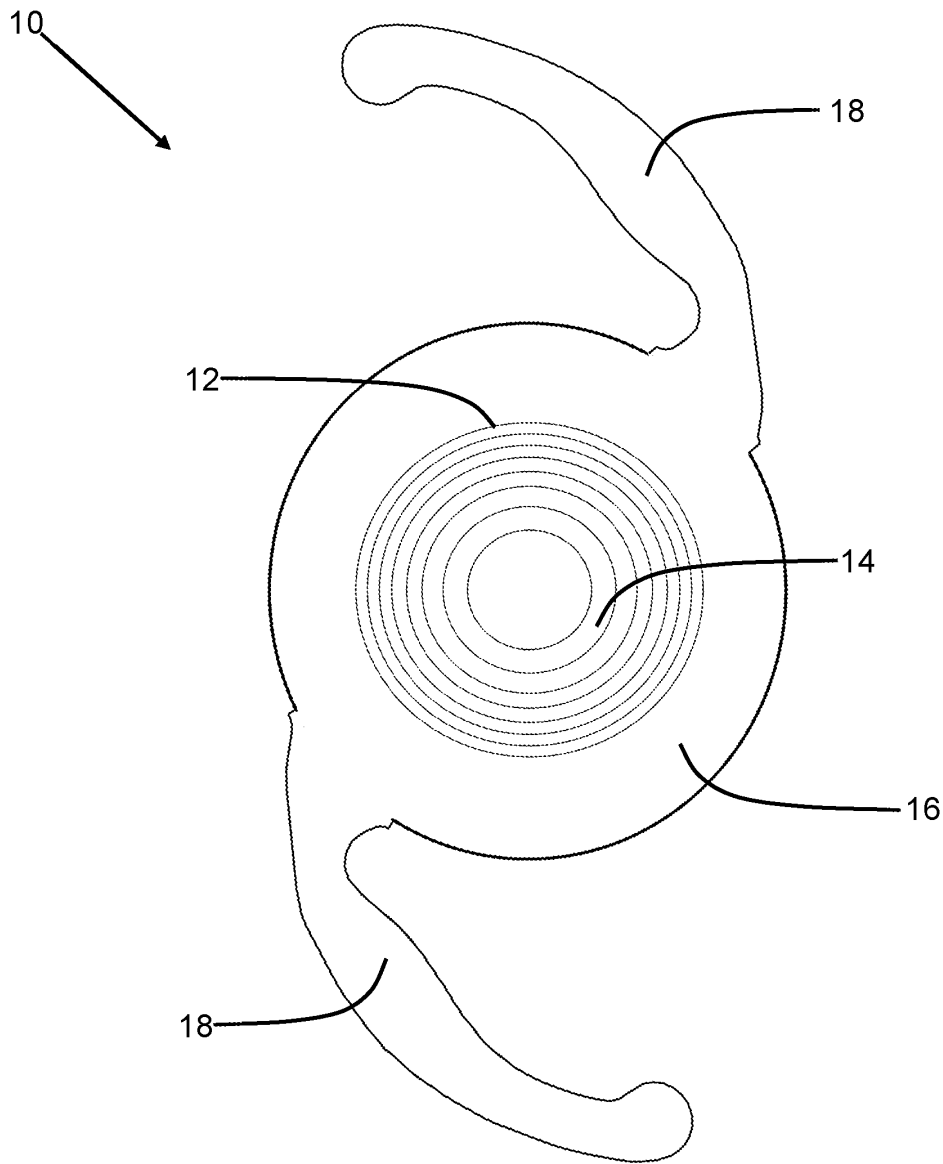


FIG. 1

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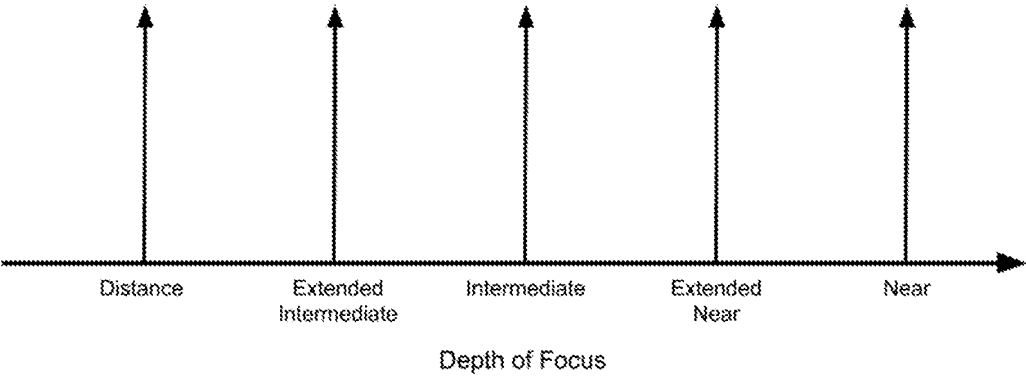


FIG. 2

Focal Point (Diffraction Order)	Additional Power (D)			
Distance (0 th)	0	0	0	0
Extended Intermediate (1 st)	0.5	0.75	0.8	1
Intermediate (2 nd)	1.0	1.5	1.6	2
Extended Near (3 rd)	1.5	2.25	2.4	3
Near (4 th)	2	3	3.2	4

FIG. 3

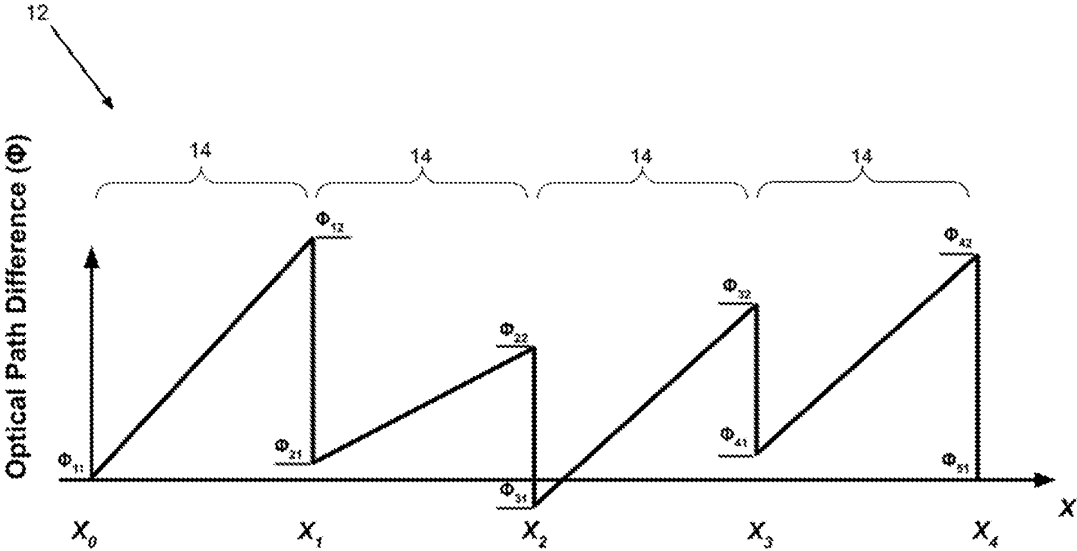


FIG. 4

Focal Order	A few Embodiments of Energy Profiles (%)						
Distance (1 st)	40	45	50	40	45	40	50
Extended Intermediate (2 nd)	10	5	5	12.5	10	10	5
Intermediate (2 nd)	22	20	10	12.5	10	20	20
Extended Near (3 rd)	5	10	15	12.5	10	10	5
Near (4 th)	23	20	20	22.5	25	20	20
Total	100	100	100	100	100	100	100

FIG. 5

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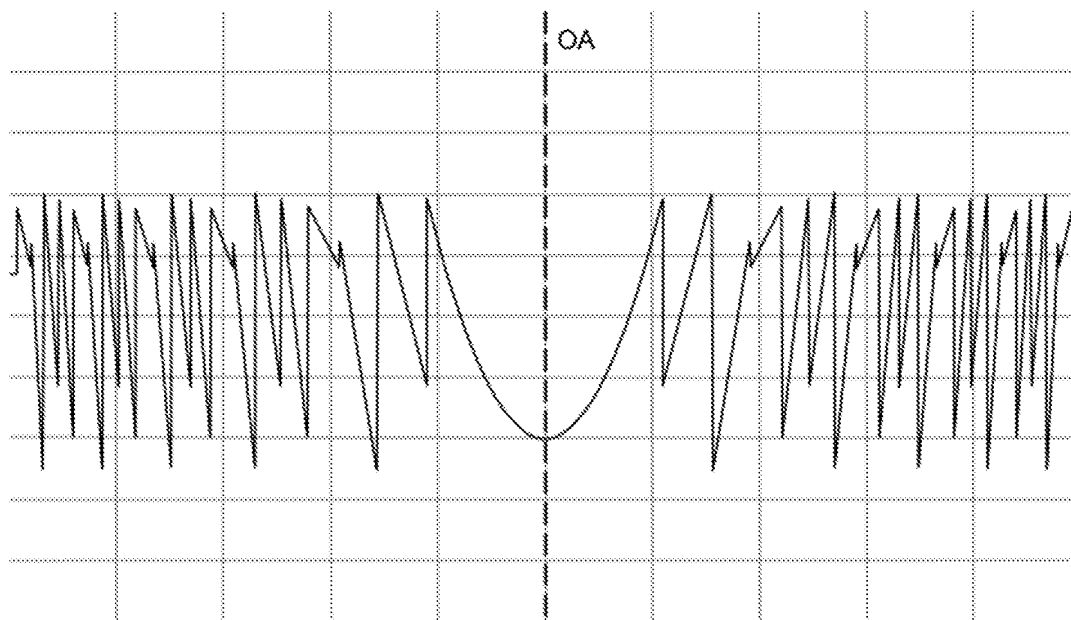


FIG. 6

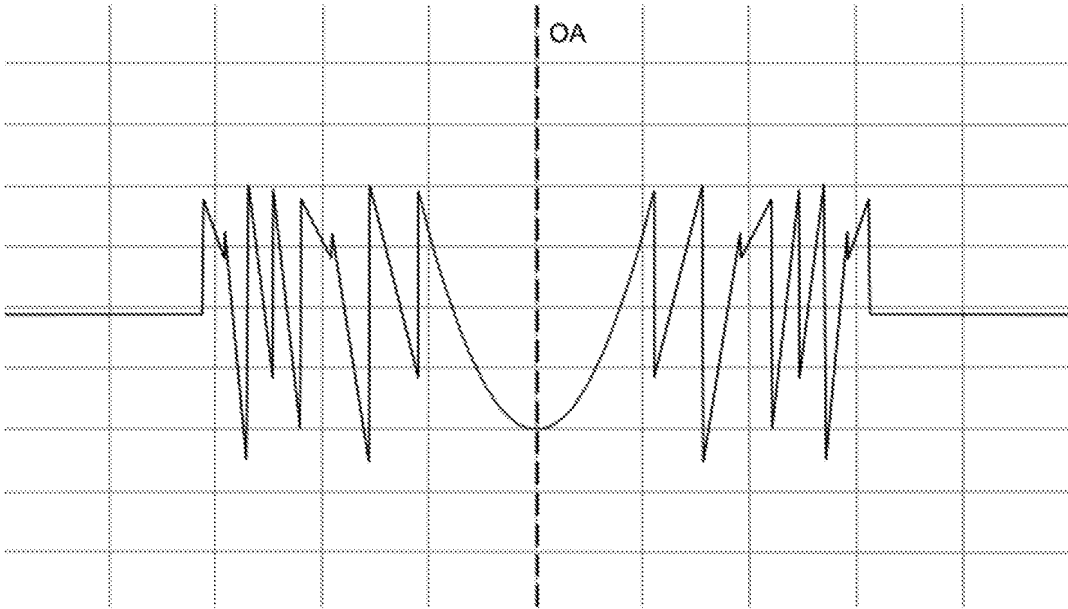


FIG. 7

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Embodiment #1	Step 1	Step 2	Step 3	Step 4
Φ_{i1} (wave)	0	0.111	-0.069	0.372
Φ_{i2} (wave)	0.523	0.534	0.426	0.502

FIG. 8

Embodiment #1	0 th Order	1 st Order	2 nd Order	3 rd Order	4 th Order
Diffraction Efficiency Estimation (%)	42	8	16	10	22

FIG. 9

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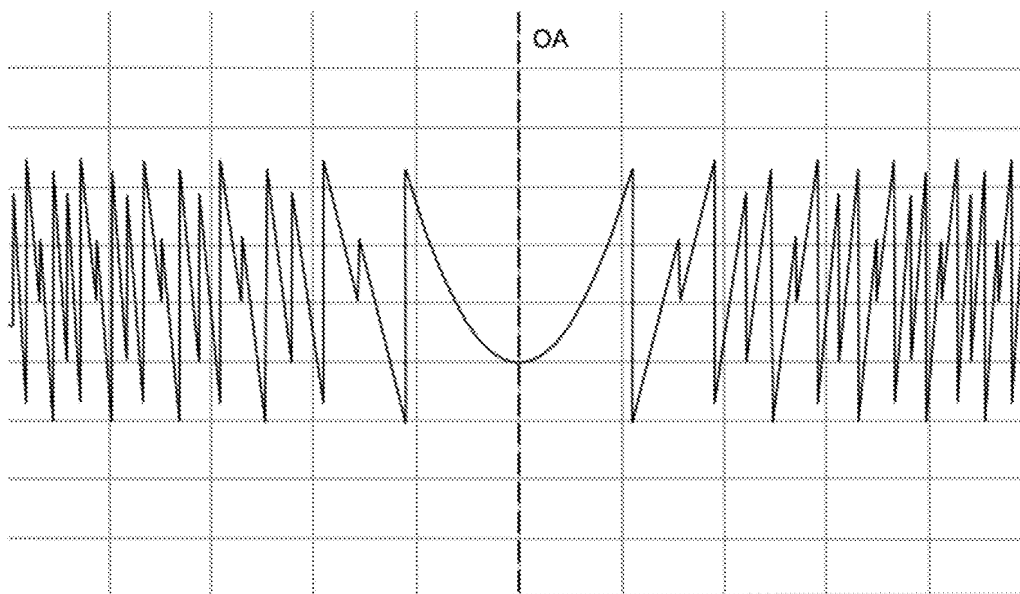


FIG. 10

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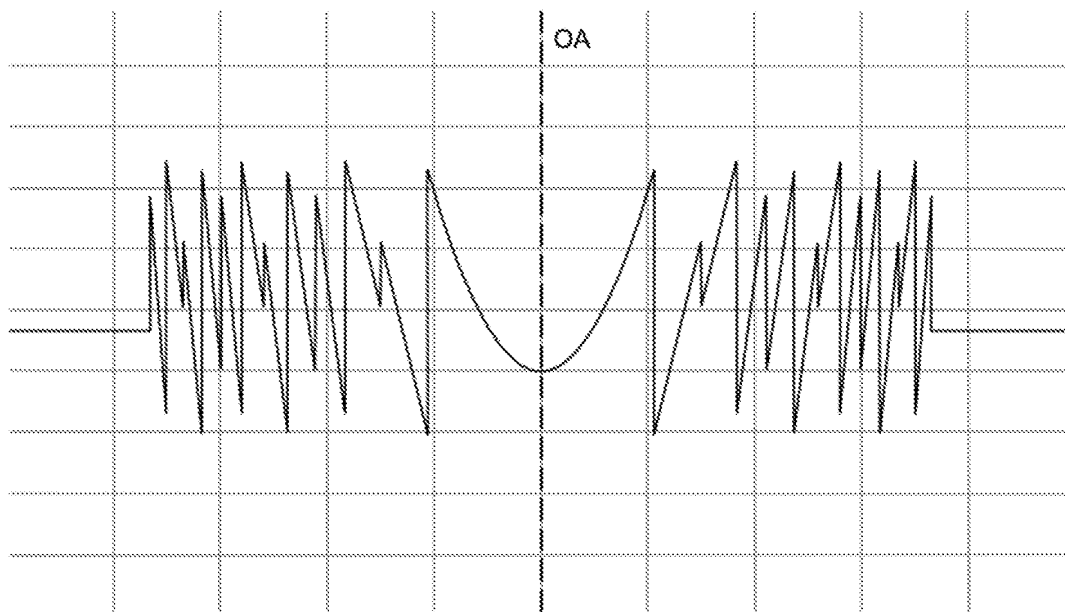


FIG. 11

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Embodiment #2	Step 1	Step 2	Step 3	Step 4
Φ_{i1} (wave)	0.000	-0.138	0.138	-0.095
Φ_{i2} (wave)	0.439	0.281	0.461	0.384

FIG. 12

Embodiment #2	0 th Order	1 st Order	2 nd Order	3 rd Order	4 th Order
Diffraction Efficiency Estimation (%)	39	5	21	13	22

FIG. 13

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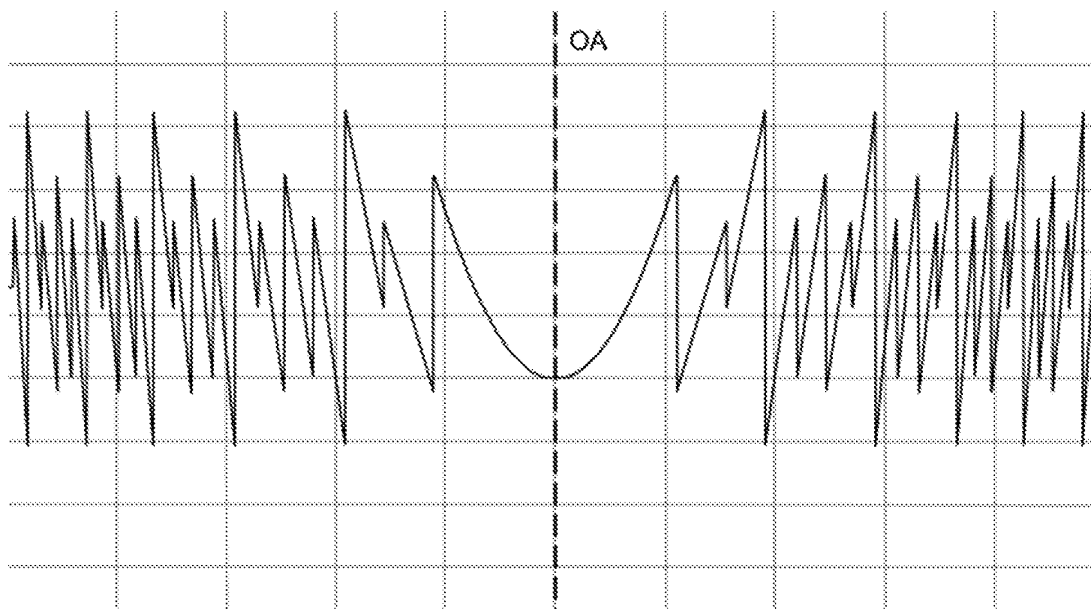


FIG. 14

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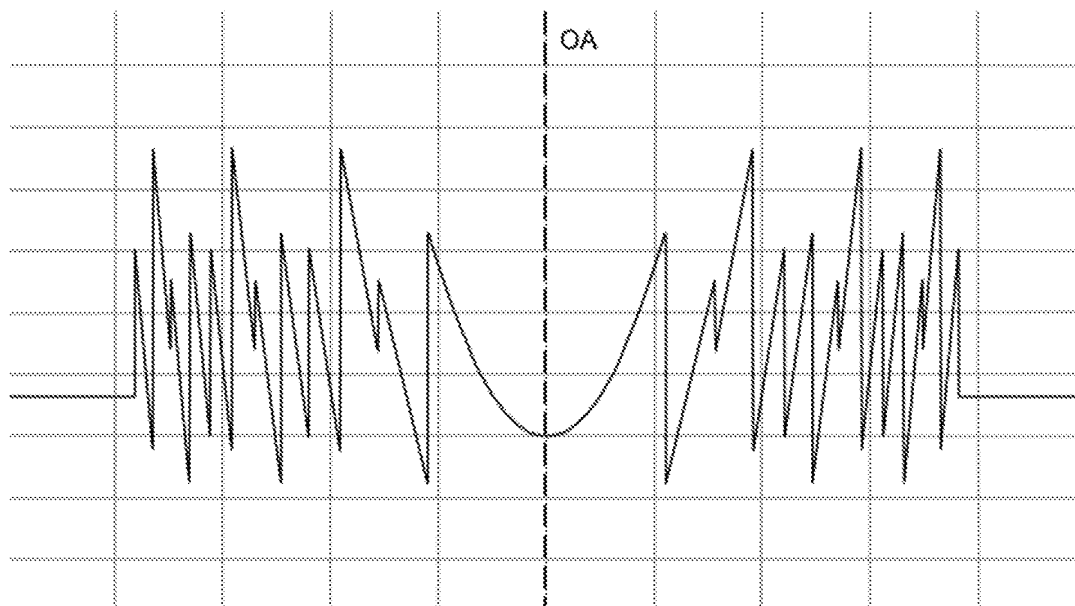


FIG. 15

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Embodiment #3	Step 1	Step 2	Step 3	Step 4
Φ_{t1} (wave)	0.000	-0.031	0.145	-0.145
Φ_{t2} (wave)	0.432	0.334	0.565	0.343

FIG. 16

Embodiment #3	0 th Order	1 st Order	2 nd Order	3 rd Order	4 th Order
Diffraction Efficiency Estimation (%)	41	13	16	8	22

FIG. 17

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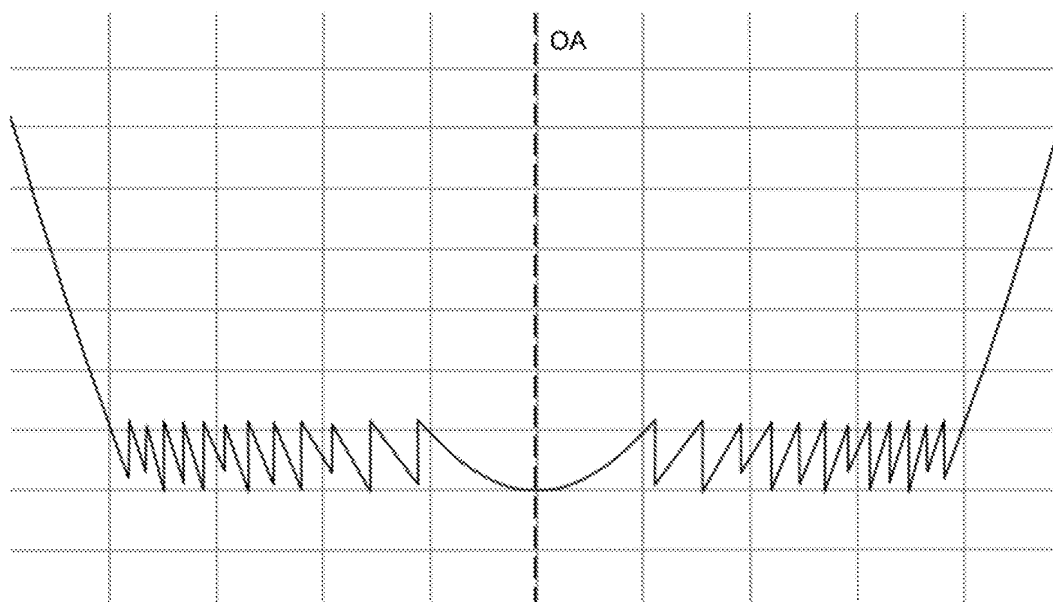


FIG. 18

Embodiment #4	Step 1	Step 2	Step 3	Step 4
Φ_{i1} (wave)	0	0.111	-0.069	0.372
Φ_{i2} (wave)	1.523	1.534	1.426	1.502

FIG. 19

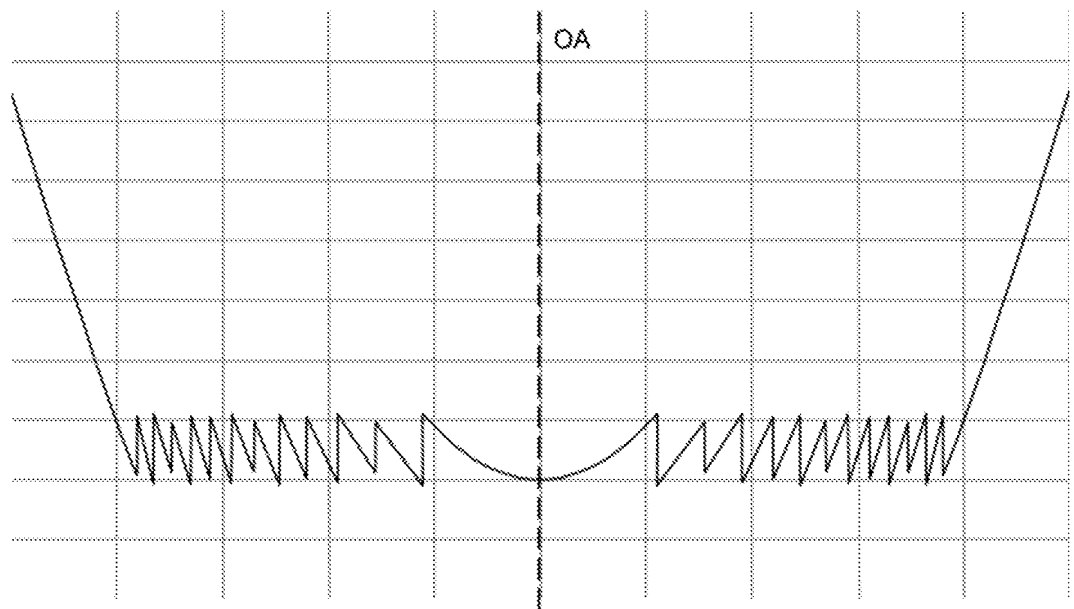


FIG. 20

Embodiment #5	Step 1	Step 2	Step 3	Step 4
Φ_{i1} (wave)	0.000	-0.138	0.138	-0.095
Φ_{i2} (wave)	1.439	1.281	1.461	1.384

FIG. 21

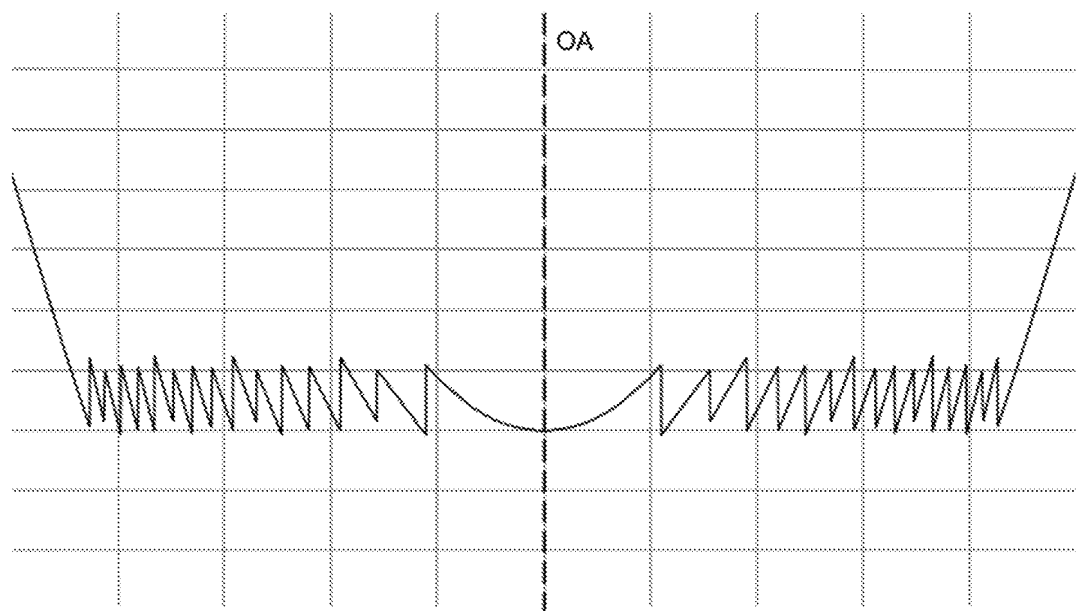


FIG. 22

Embodiment #6	Step 1	Step 2	Step 3	Step 4
Φ_{i1} (wave)	0.000	-0.031	0.145	-0.145
Φ_{i2} (wave)	1.432	1.334	1.565	1.343

FIG. 23

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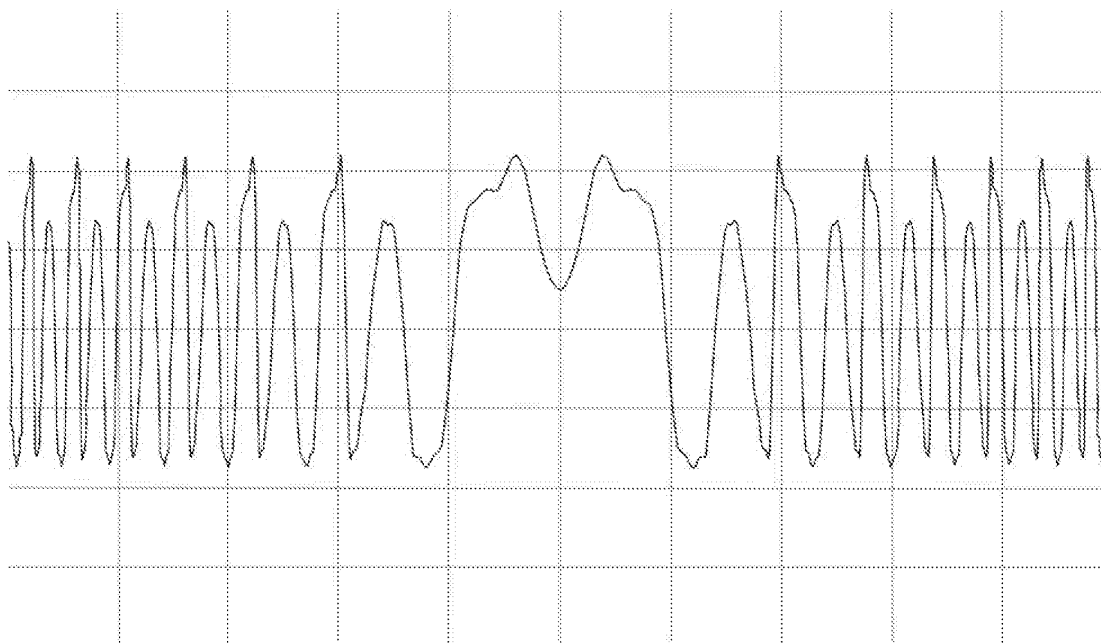


FIG. 24

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Focus	Distance	Extended Intermediate	Intermediate	Extended Near	Near
Diffraction Order	-2 nd	-1 st	0 th	1 st	2 nd
Energy Efficiency (%)	41	10	19	7	23

FIG. 25

Harmonic order	Amplitude A_i	Phase Ψ_i
1	0.057699	0.242119
2	0.234267	-1.6615
3	0.038004	-1.4508
4	-0.02374	1.554965
5	0.027345	-0.57577
6	0.037391	-1.51367
7	-0.01798	1.550559
8	-0.01337	1.608512
9	0.008417	-1.02275
10	-0.01115	1.620449
11	-0.00712	1.047705
12	0.009787	-1.29735

FIG. 26

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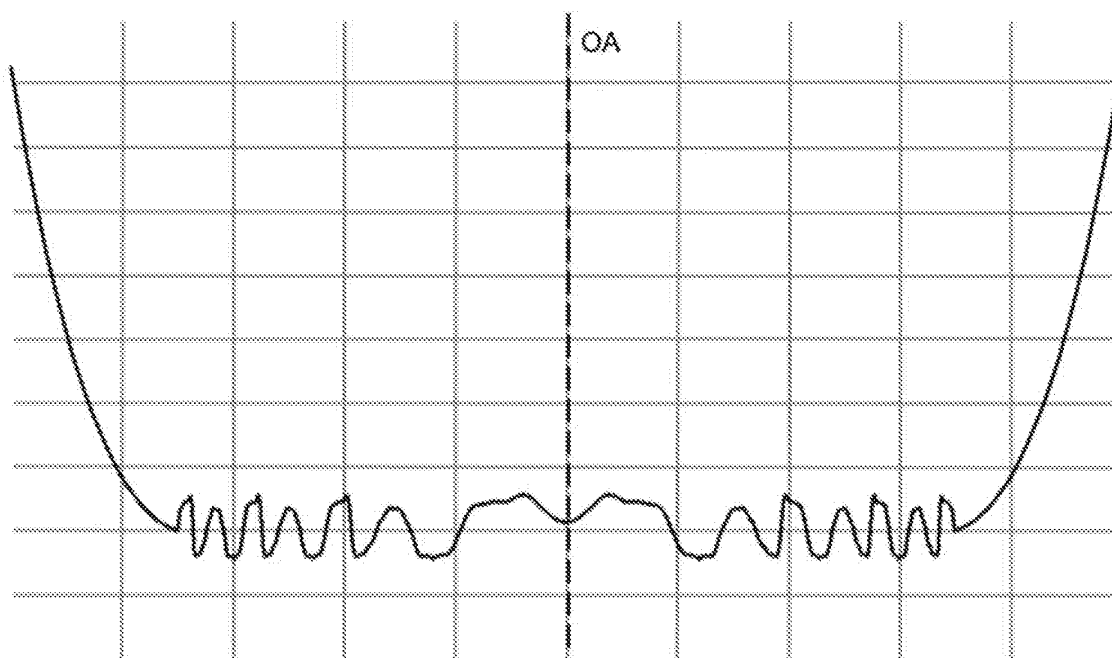


FIG. 27