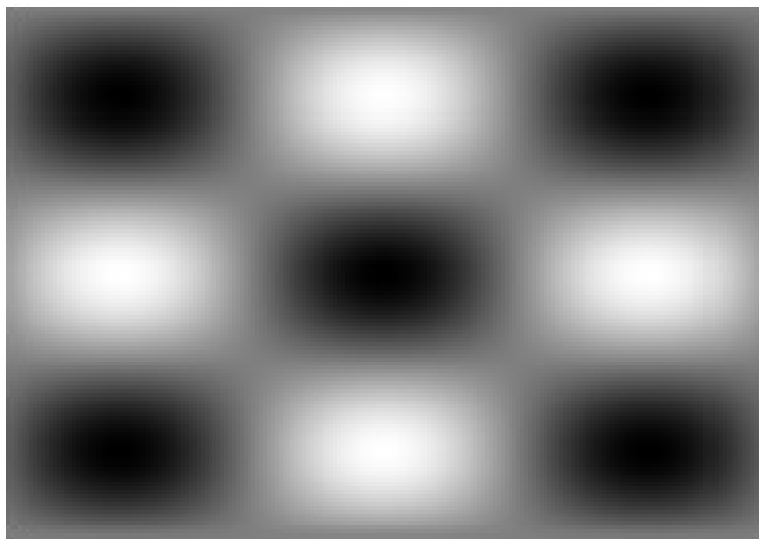
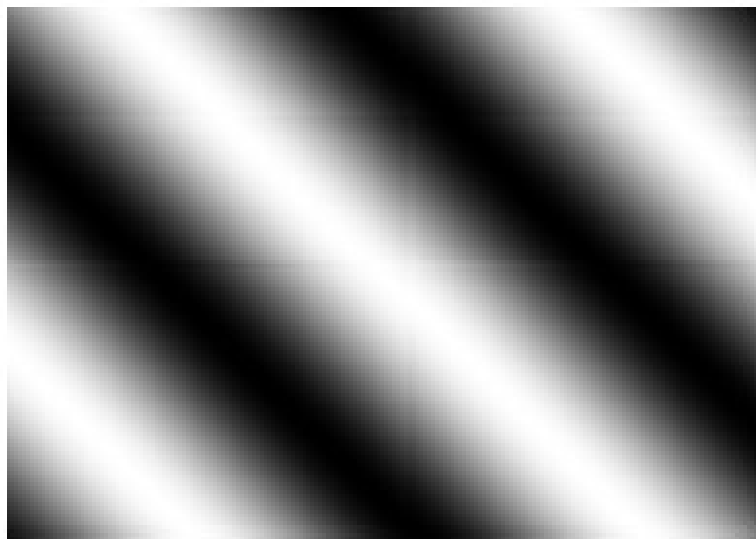
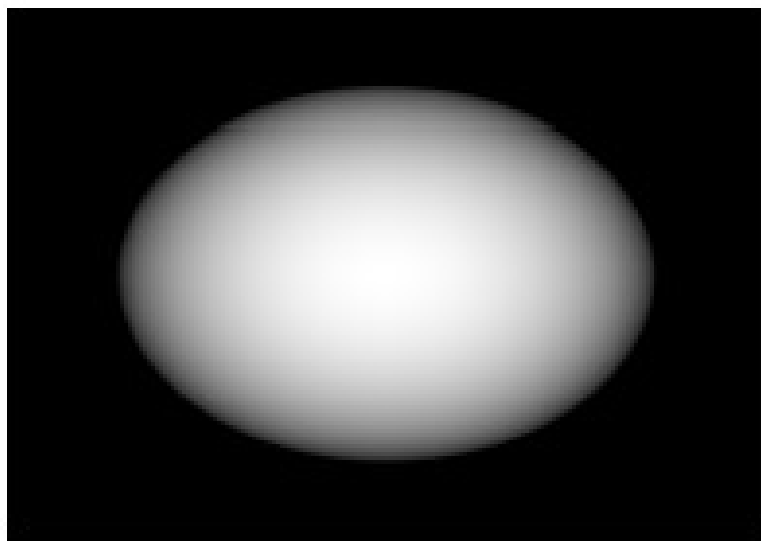




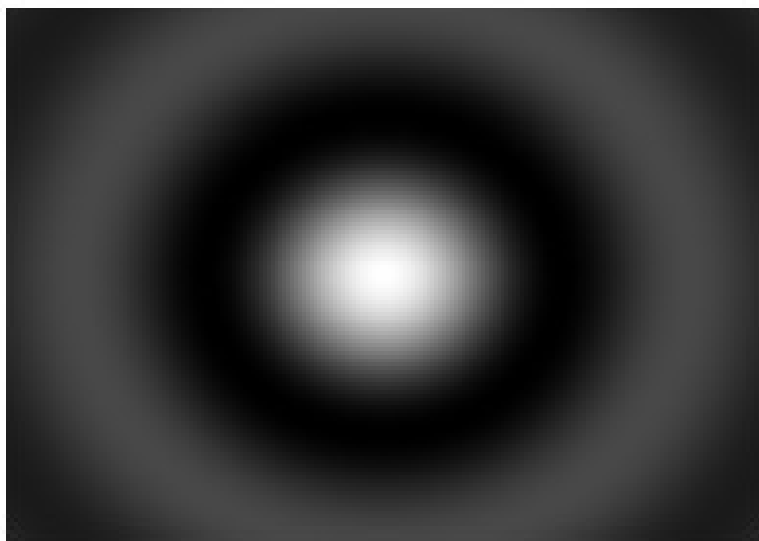
(a)



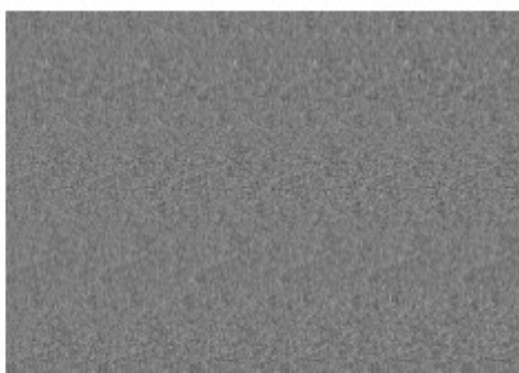
(b)



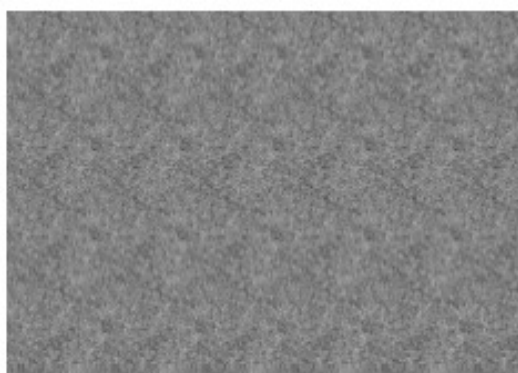
(c)



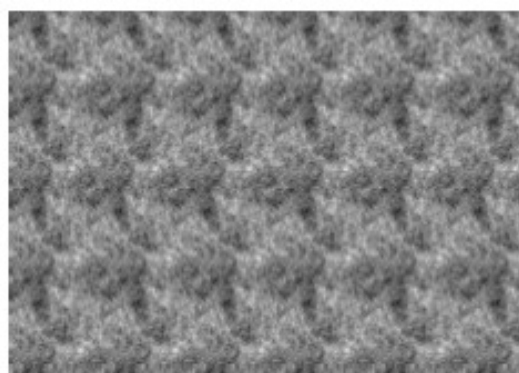
(d)



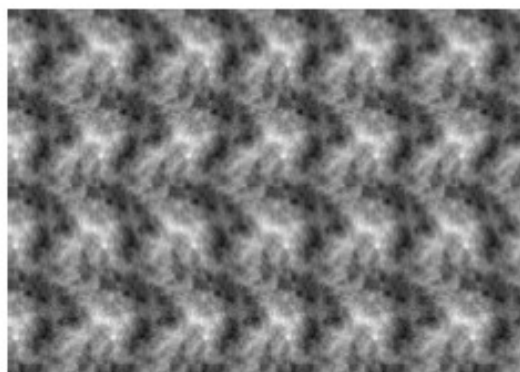
(a)



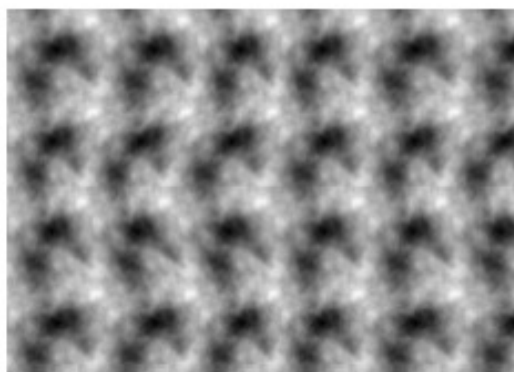
(b)



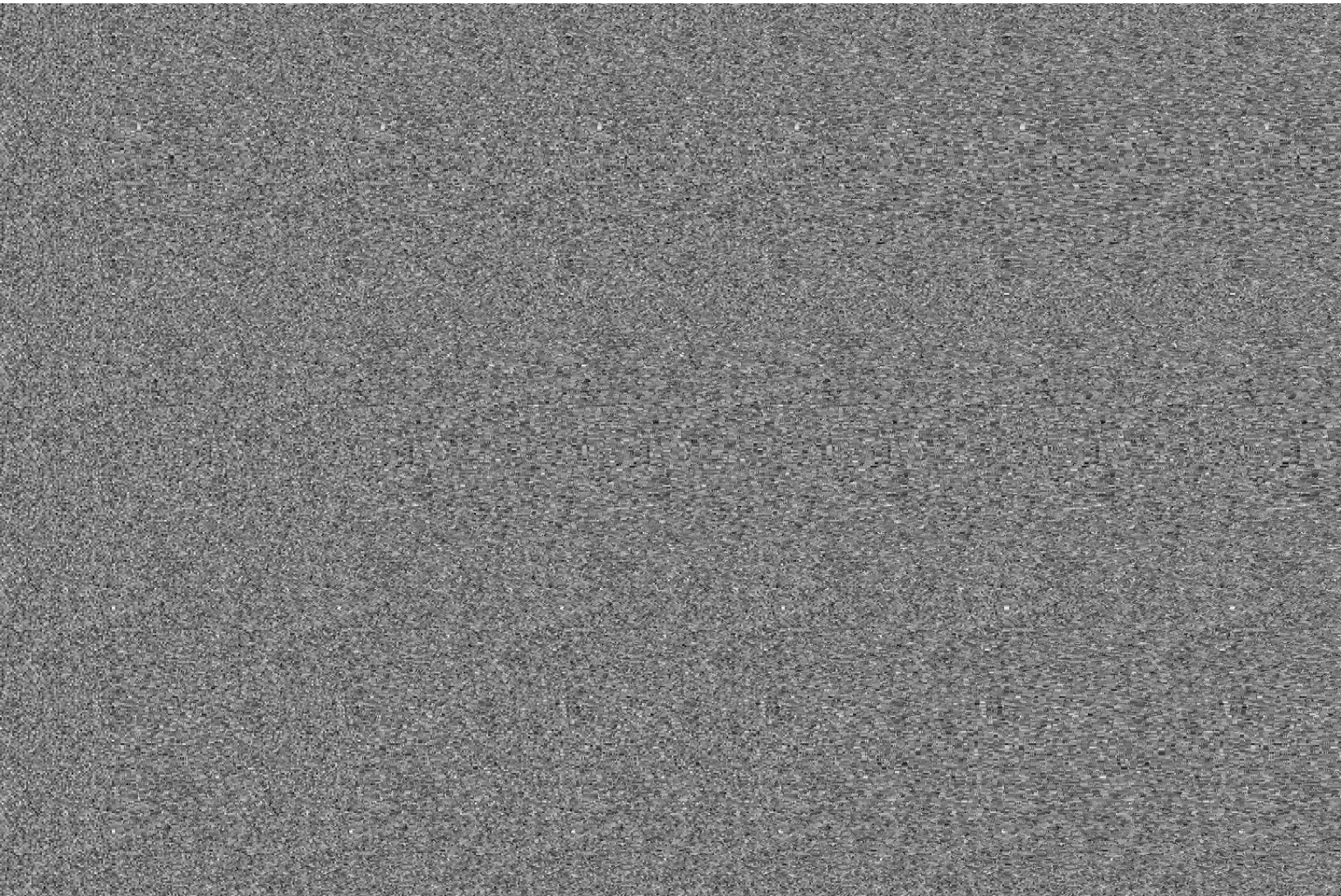
(c)

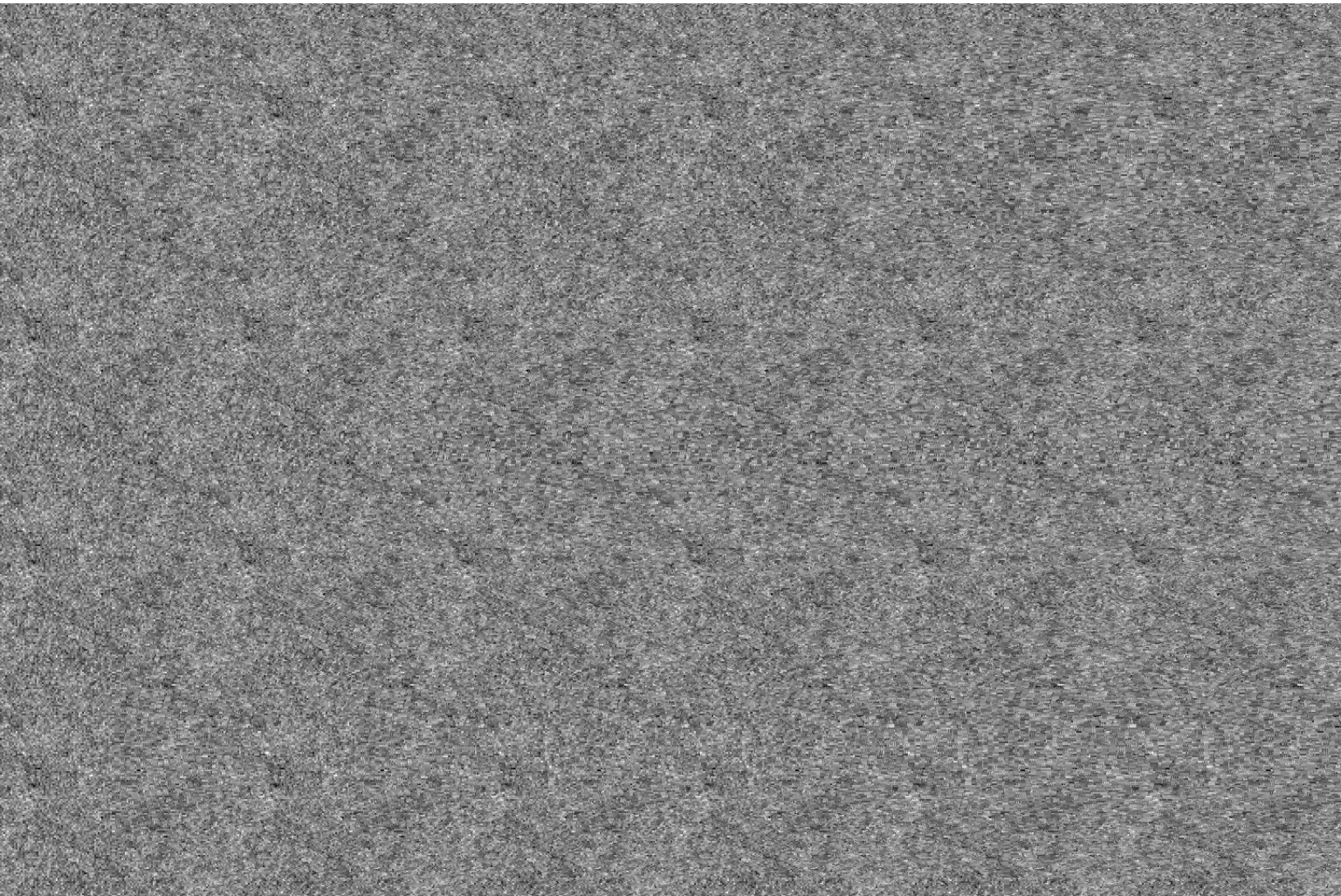


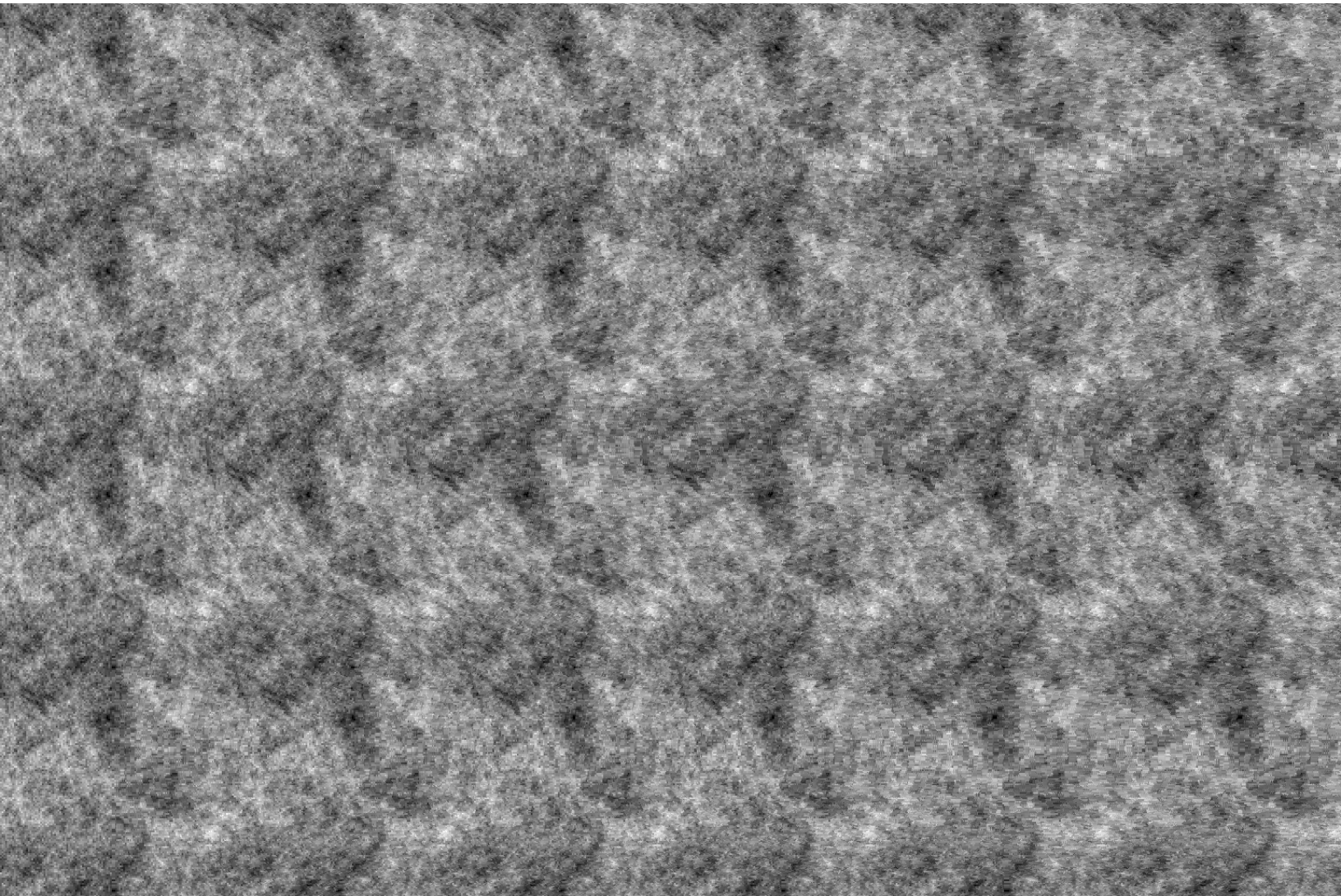
(d)

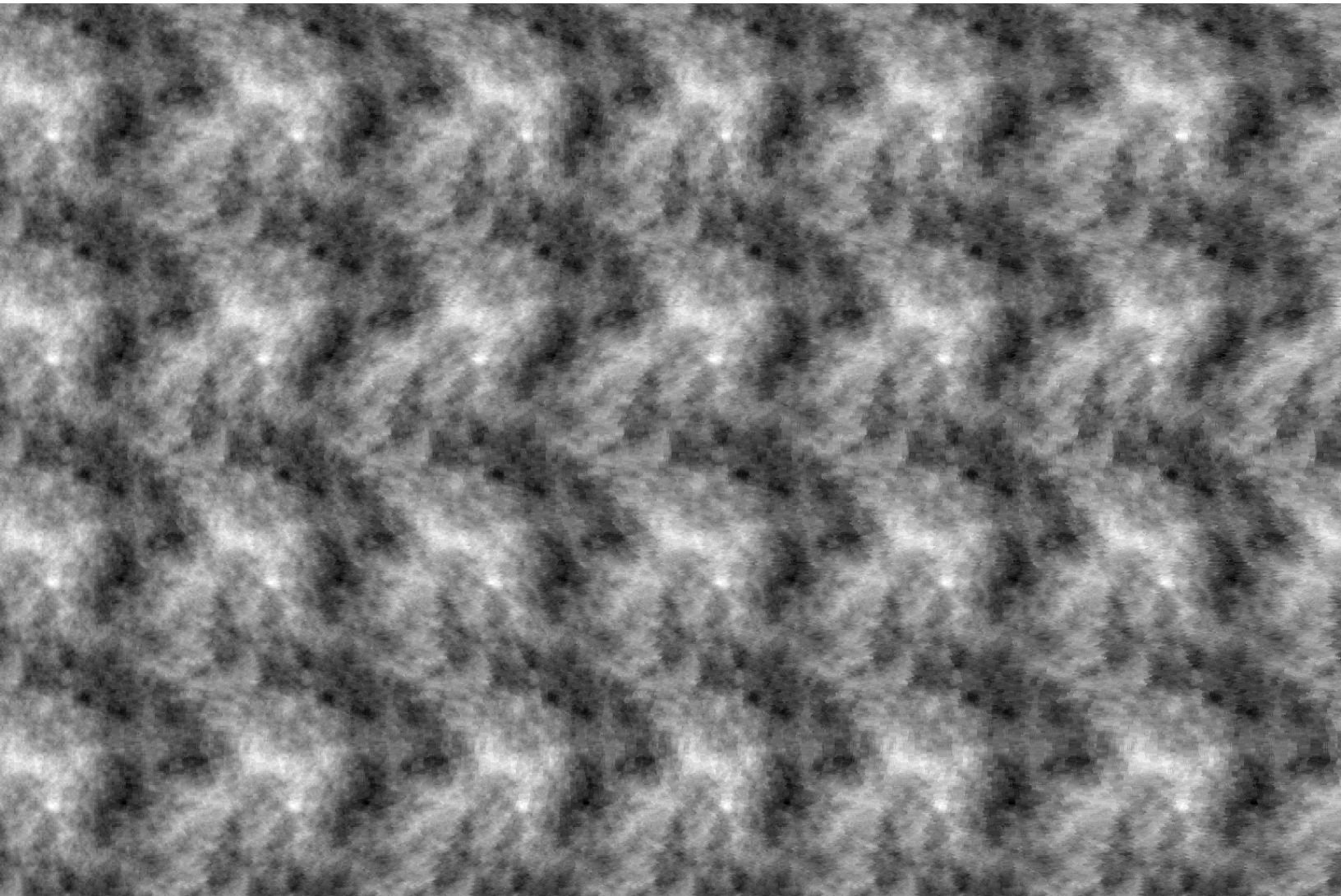


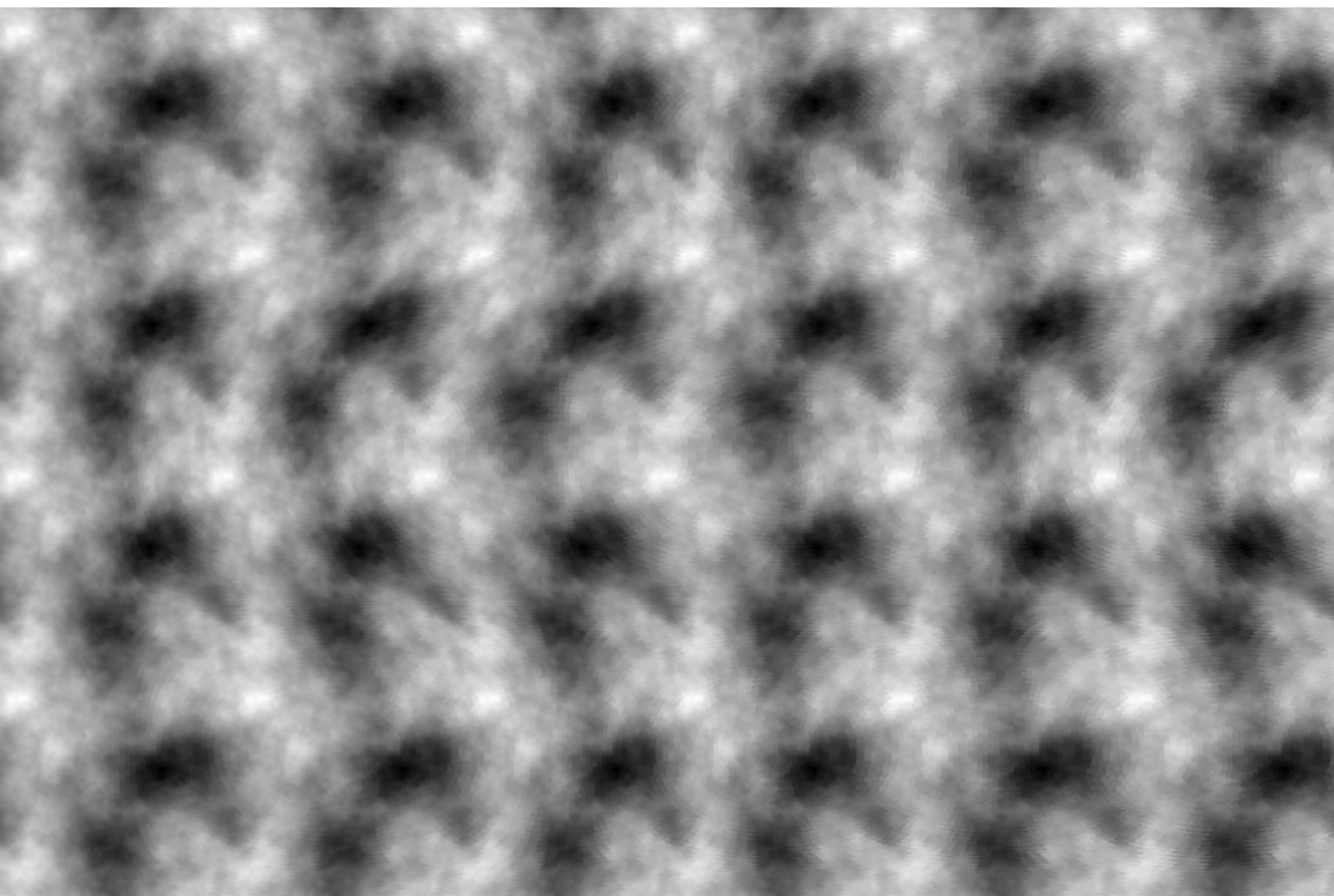
(e)

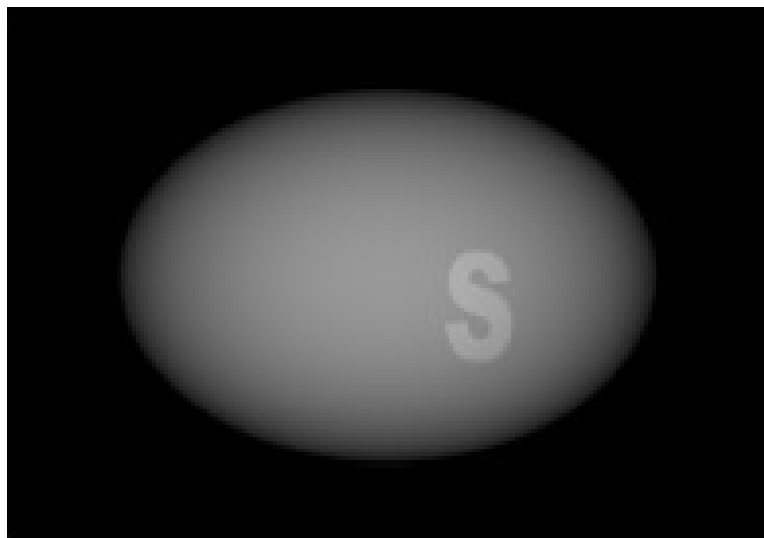




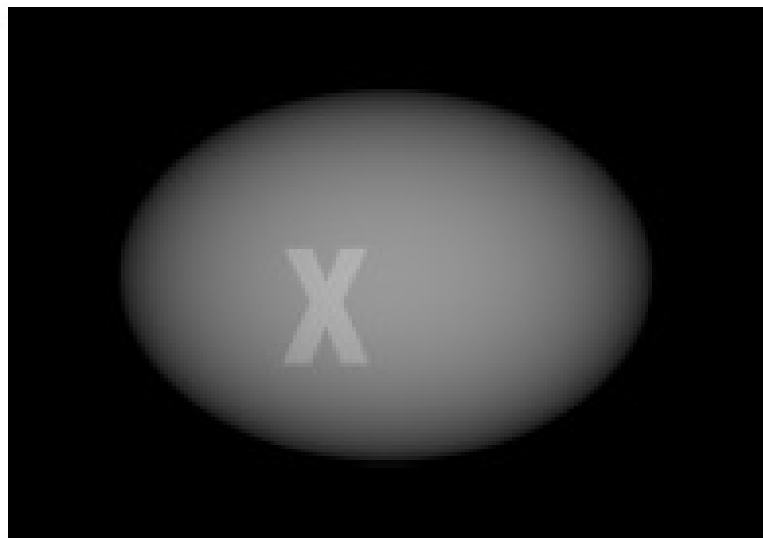




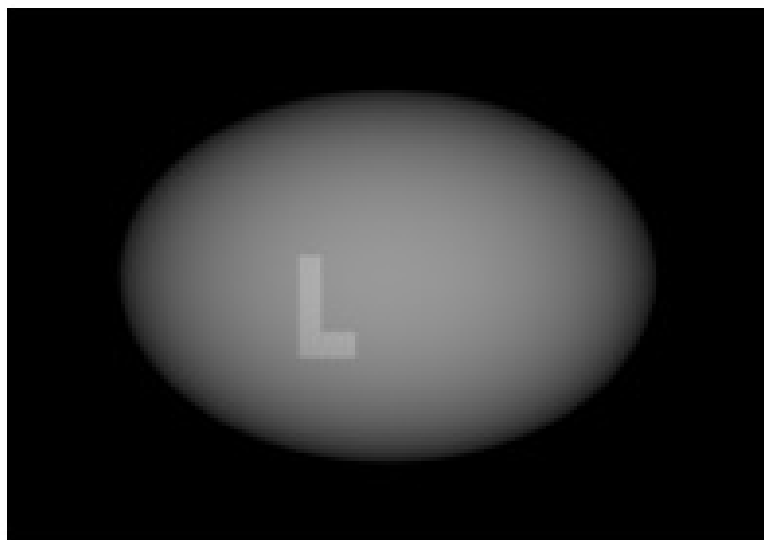




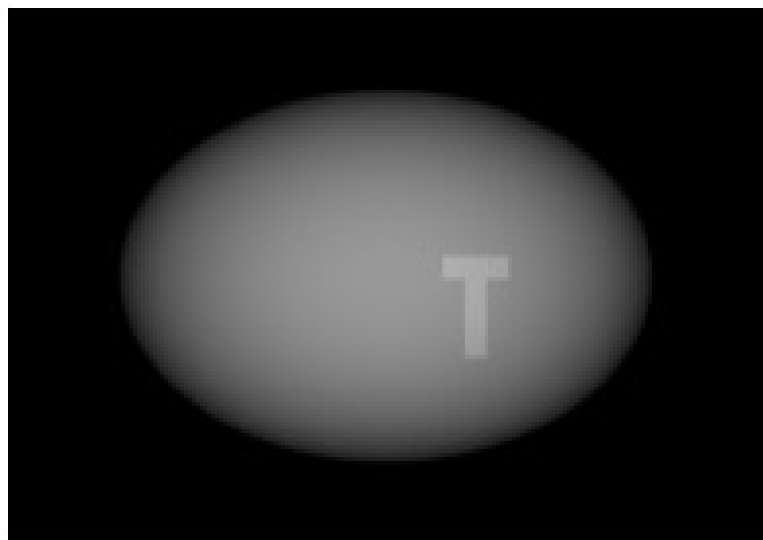
(a)



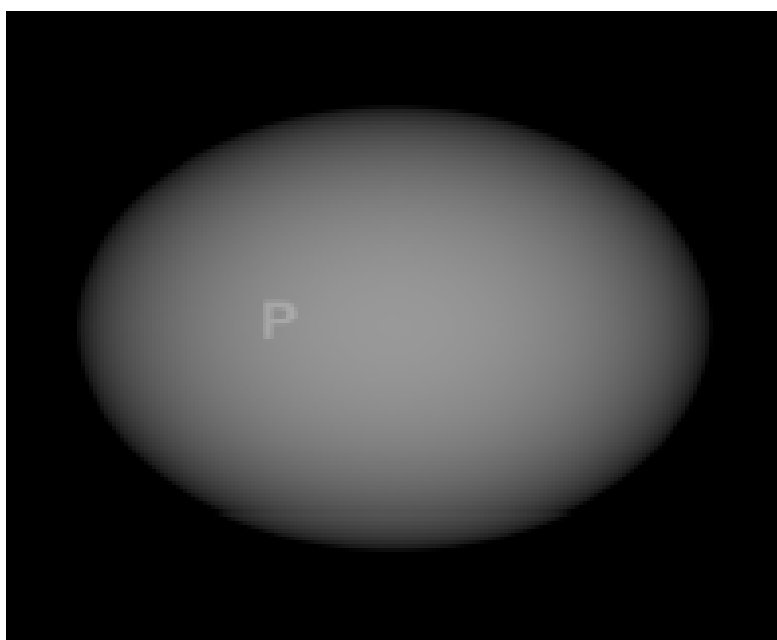
(b)



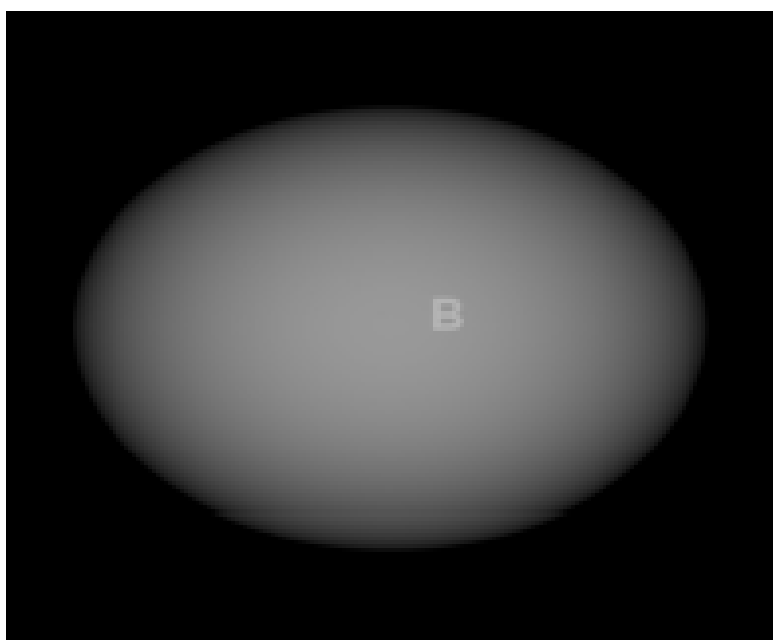
(c)



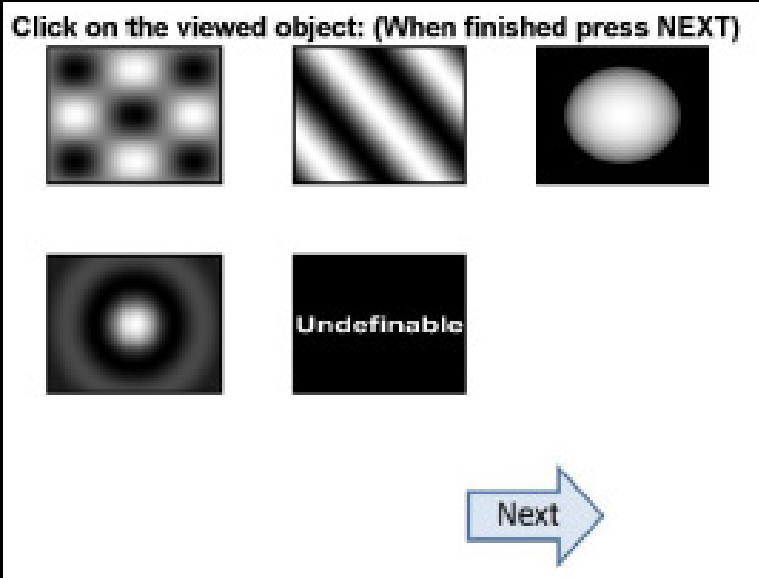
(d)



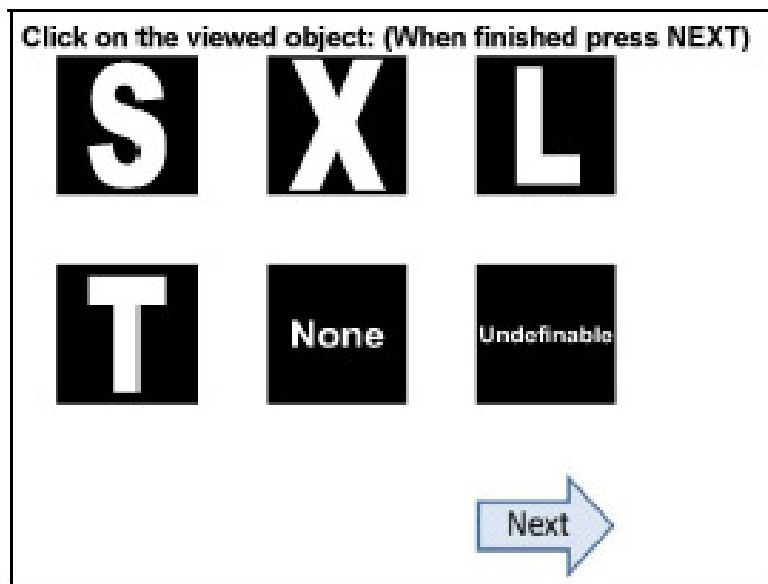
(a)



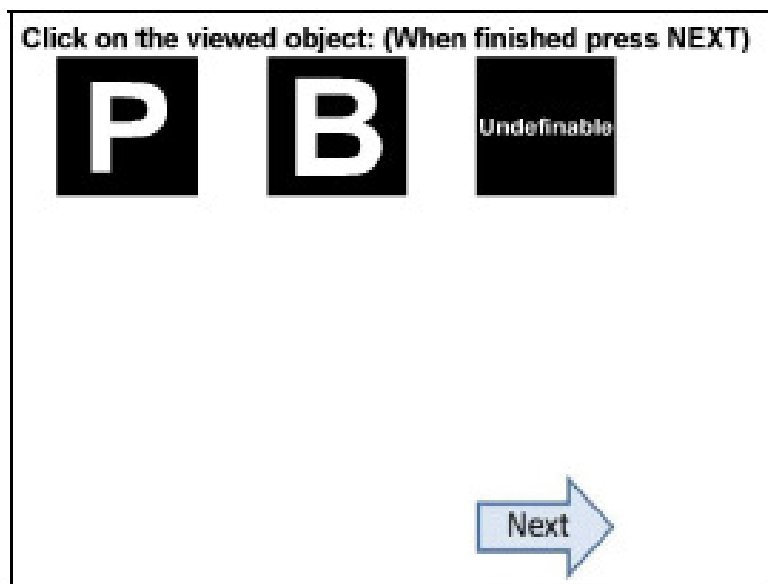
(b)



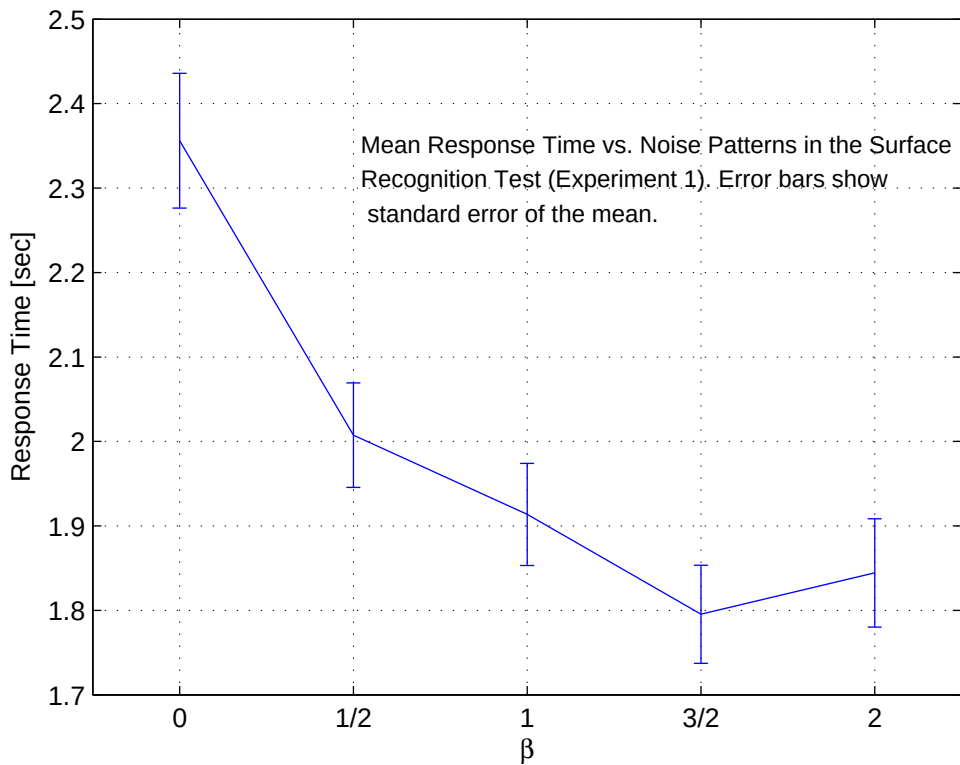
(a) Experiment 1

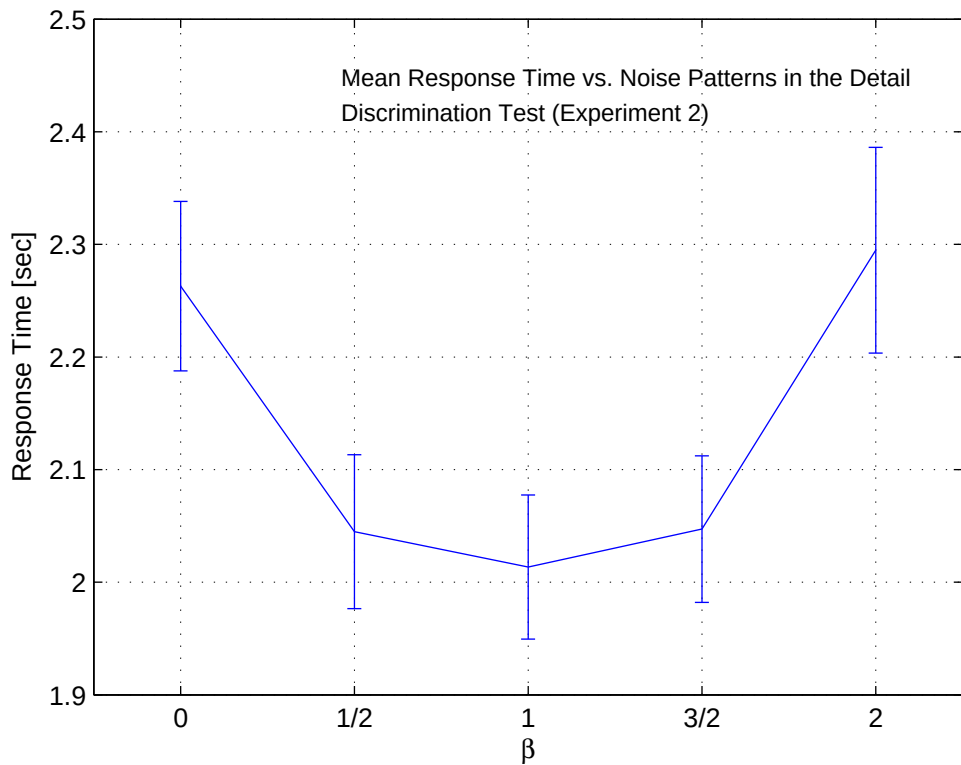


(b) Experiment 2

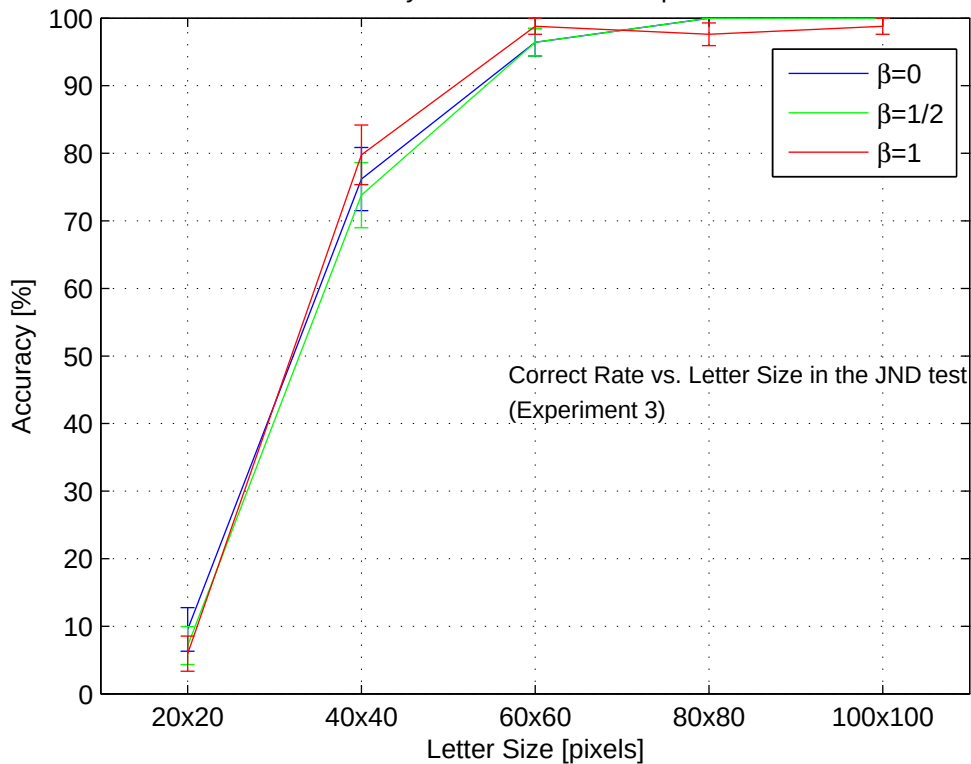


(c) Experiment 3

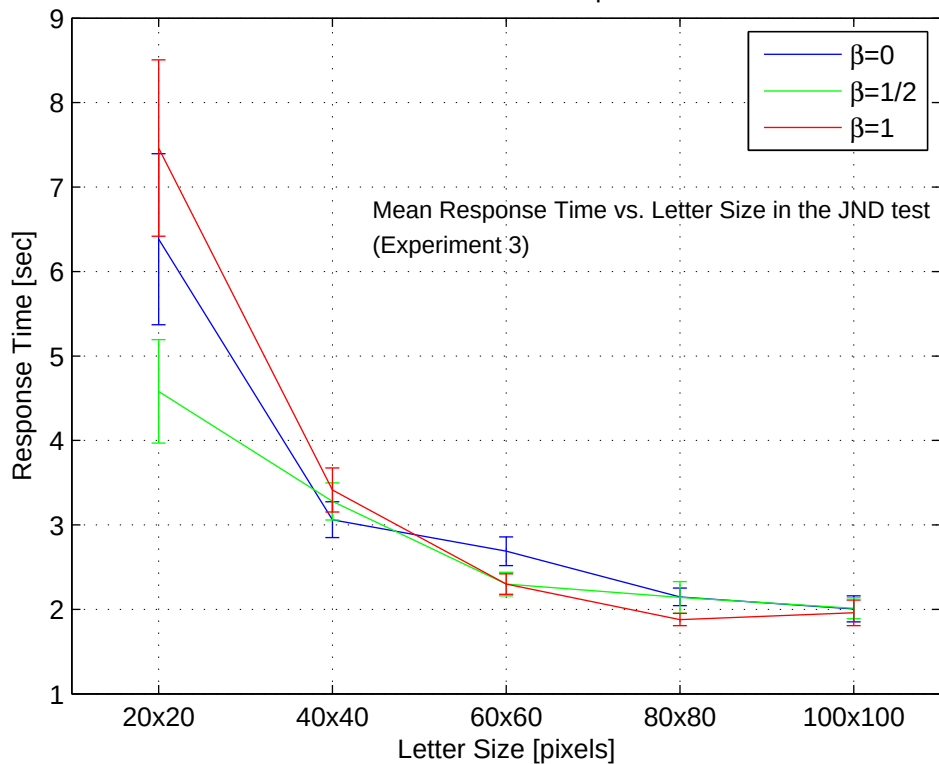


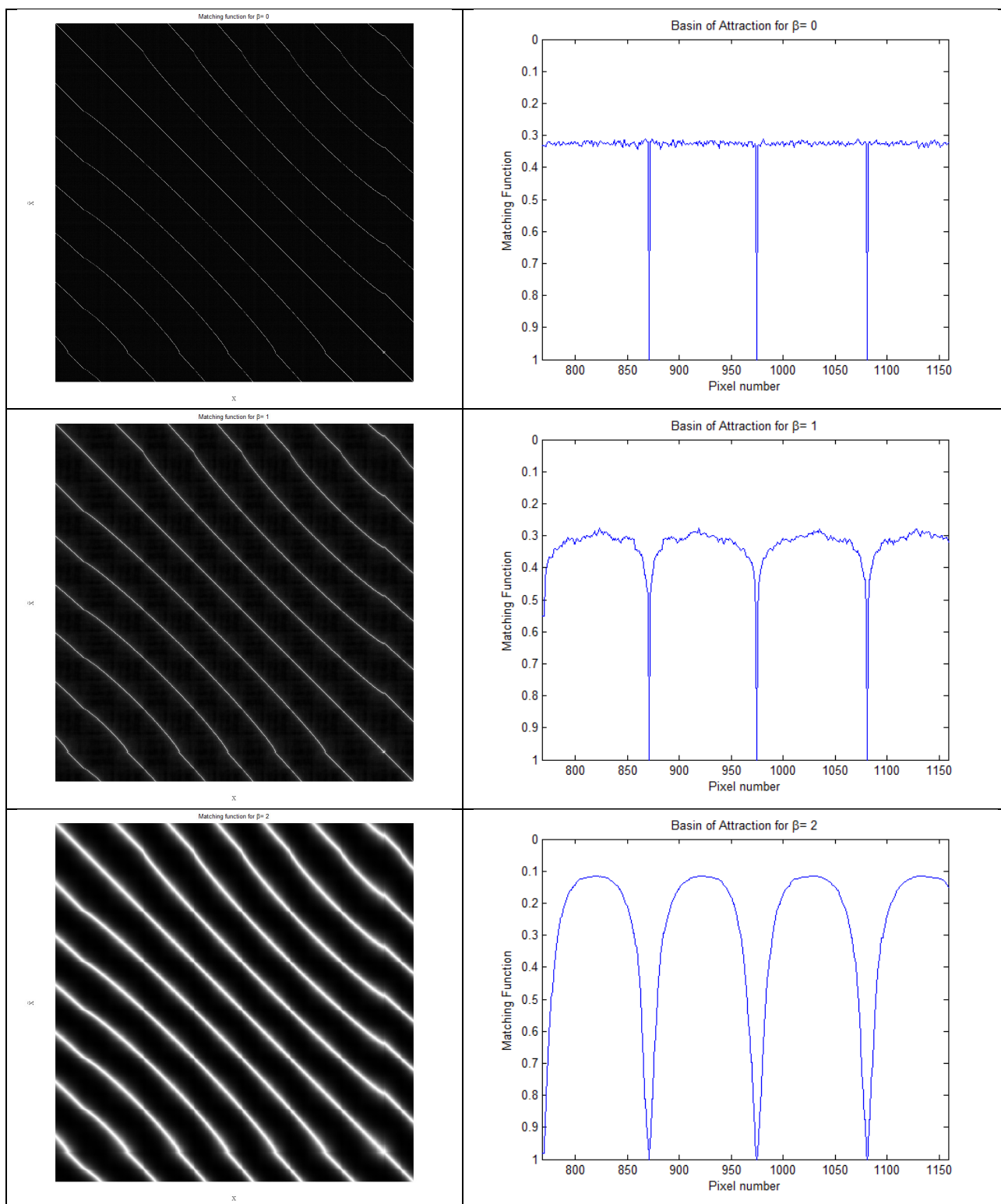


Mean Accuracy and Standard Error per Letter Size



Mean RT and Standard Error per Letter Size





	White Noise $\beta = 0$	$\beta = \frac{1}{2}$	Pink Noise $\beta = 1$	$\beta = \frac{3}{2}$	Brown Noise $\beta = 2$
Correct Rate	99.05%	99.76%	99.52%	99.29%	99.52%
Number of Mistakes	1	1	2	2	1
Number of Undefinables	3	0	0	1	1

Table 1: Accuracy vs. Noise Patterns in the Surface Recognition Test (Experiment 1)

Hypothesis	Significant (P-value<0.05)	P-value
$RT_{\beta=0} > RT_{\beta=\frac{1}{2}}$	yes	2.954e-4
$RT_{\beta=0} > RT_{\beta=1}$	yes	5.68e-6
$RT_{\beta=0} > RT_{\beta=\frac{3}{2}}$	yes	9.858e-9
$RT_{\beta=0} > RT_{\beta=2}$	yes	3.656e-7
$RT_{\beta=\frac{1}{2}} > RT_{\beta=1}$	no	0.1389
$RT_{\beta=\frac{1}{2}} > RT_{\beta=\frac{3}{2}}$	yes	0.0063
$RT_{\beta=\frac{1}{2}} > RT_{\beta=2}$	yes	0.0338
$RT_{\beta=1} > RT_{\beta=\frac{3}{2}}$	no	0.0794
$RT_{\beta=1} > RT_{\beta=2}$	no	0.216
$RT_{\beta=\frac{3}{2}} < RT_{\beta=2}$	no	0.2862

	White Noise $\beta = 0$	$\beta = \frac{1}{2}$	Pink Noise $\beta = 1$	$\beta = \frac{3}{2}$	Brown Noise $\beta = 2$
Correct Rate	100%	99.47%	100%	99.47%	97.07%
Number of Mistakes	0	0	0	0	6
Number of Undefinables	0	2	0	2	5

Hypothesis	Significant (P-value < 0.05)	P-value
$RT_{\beta=0} > RT_{\beta=\frac{1}{2}}$	yes	0.0162
$RT_{\beta=0} > RT_{\beta=1}$	yes	0.0059
$RT_{\beta=0} > RT_{\beta=\frac{3}{2}}$	yes	0.0152
$RT_{\beta=0} < RT_{\beta=2}$	no	0.3938
$RT_{\beta=\frac{1}{2}} > RT_{\beta=1}$	no	0.3689
$RT_{\beta=\frac{1}{2}} < RT_{\beta=\frac{3}{2}}$	no	0.4902
$RT_{\beta=\frac{1}{2}} < RT_{\beta=2}$	yes	0.0144
$RT_{\beta=1} < RT_{\beta=\frac{3}{2}}$	no	0.356
$RT_{\beta=1} < RT_{\beta=2}$	yes	0.0059
$RT_{\beta=\frac{3}{2}} < RT_{\beta=2}$	yes	0.0137

Depth\Size	20 × 20			40 × 40			60 × 60			80 × 80			100 × 100			Row Mean		
	u	m	c	u	m	c	u	m	c	u	m	c	u	m	c	u	m	c
1/5	85.71	0	14.29	14.29	3.57	82.14	3.57	0	96.43	0	0	100	0	0	100	20.71	0.71	78.57
1/6	82.14	10.7	7.14	32.14	3.57	64.29	3.57	0	96.43	0	0	100	0	0	100	23.57	2.86	73.57
1/7	92.86	0	7.14	14.29	3.57	82.14	3.57	0	96.43	0	0	100	0	0	100	22.14	0.71	77.14
Col. Mean	86.9	3.57	9.52	20.24	3.57	76.19	3.57	0	96.43	0	0	100	0	0	100			

$$\beta = 0$$

Depth\Size	20 × 20			40 × 40			60 × 60			80 × 80			100 × 100			Row Mean		
	u	m	c	u	m	c	u	m	c	u	m	c	u	m	c	u	m	c
1/5	89.29	7.14	3.57	17.89	0	82.14	0	3.57	96.43	0	0	100	0	0	100	21.43	2.14	76.43
1/6	85.71	3.57	10.71	35.71	7.14	57.14	0	3.57	96.43	0	0	100	0	0	100	24.29	2.86	72.86
1/7	89.29	3.57	7.14	17.86	0	82.14	3.57	0	96.43	0	0	100	0	0	100	22.14	0.71	77.14
Col. Mean	88.1	4.76	7.14	23.81	2.38	73.81	1.19	2.38	96.43	0	0	100	0	0	100			

$$\beta = \frac{1}{2}$$

Depth\Size	20 × 20			40 × 40			60 × 60			80 × 80			100 × 100			Row Mean		
	u	m	c	u	m	c	u	m	c	u	m	c	u	m	c	u	m	c
1/5	85.71	7.14	7.14	10.7	7.14	82.14	0	0	100	3.57	3.57	92.86	0	0	100	20	3.57	76.43
1/6	96.43	0	3.57	35.7	0	64.29	3.57	0	96.43	0	0	100	0	0	100	27.14	0	72.86
1/7	92.86	0	7.14	7.14	0	92.86	0	0	100	0	0	100	3.57	0	96.43	20.71	0	79.29
Col. Mean	91.67	2.38	5.95	17.9	2.38	79.76	1.19	0	98.81	1.19	1.19	97.62	1.19	0	98.81			

$$\beta = 1$$