

LAMPIRAN

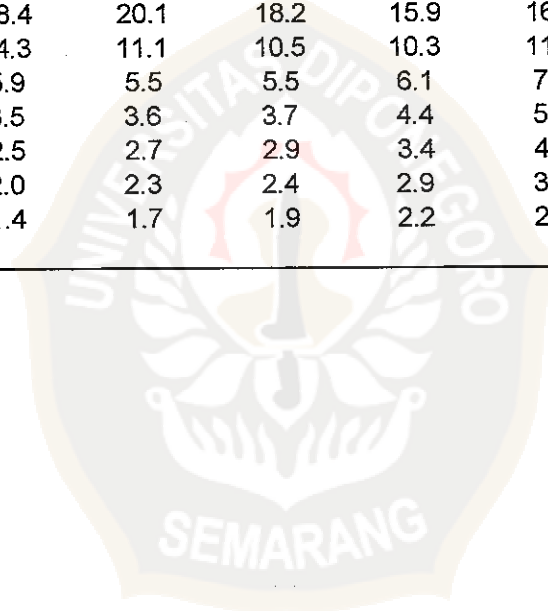


Lampiran 1

ARL untuk beberapa Pengendali EWMA

[dari Lucas dan Saccuci (1990)]

Pergeseran rata-rata	L = 3.054 $\lambda = 0.40$	2.998 0.25	2.962 0.20	2.814 0.10	2.615 0.05
0	500	500	500	500	500
0.25	224	170	150	106	84.1
0.50	71.2	48.2	41.8	31.3	28.8
0.75	28.4	20.1	18.2	15.9	16.4
1.00	14.3	11.1	10.5	10.3	11.4
1.50	5.9	5.5	5.5	6.1	7.1
2.00	3.5	3.6	3.7	4.4	5.2
2.50	2.5	2.7	2.9	3.4	4.2
3.00	2.0	2.3	2.4	2.9	3.5
4.00	1.4	1.7	1.9	2.2	2.7



Lampiran 2

ARL₀ Untuk Grafik Pengendali MEWMA

[dari Prabhu dan Runger (1997)]

p	δ	λ							
		0.05	0.10	0.20	0.30	0.40	0.50	0.60	0.80
2		H=7.35	8.64	9.65	10.08	10.31	10.44	10.52	10.58
	0.0	199.93	199.98	199.61	199.82	199.83	200.16	200.04	200.2
	0.5	26.61	28.07	35.17	44.1	53.82	64.07	74.5	95.88
	1.0	11.23	10.15	10.2	11.36	13.26	15.88	19.24	28.65
	1.5	7.14	6.11	5.49	5.48	5.78	6.36	7.25	10.28
	2.0	5.28	4.42	3.78	3.56	3.53	3.62	3.84	4.79
	3.0	3.56	2.93	2.42	2.2	2.05	1.95	1.9	1.91
4		H=11.22	12.73	13.87	14.34	14.58	14.71	14.78	14.85
	0.0	199.84	200.12	199.94	199.91	199.96	200.05	199.99	200.05
	0.5	32.29	35.11	46.3	59.28	72.43	85.28	97.56	120.27
	1.0	13.48	12.17	12.67	14.81	18.12	22.54	28.06	42.58
	1.5	8.54	7.22	6.53	6.68	7.31	8.4	10.03	15.4
	2.0	6.31	5.19	4.41	4.2	4.24	4.48	4.93	6.75
	3.0	4.23	3.41	2.77	2.5	2.36	2.27	2.24	2.37
6		H=14.60	16.27	17.51	18.01	18.26	18.39	18.47	18.54
	0.0	200.11	200.03	200.11	100.18	199.81	200.01	199.87	200.17
	0.5	36.39	40.38	54.71	70.3	85.1	99.01	111.65	133.91
	1.0	15.08	13.66	14.63	17.71	22.27	28.22	35.44	53.51
	1.5	9.54	8.01	7.32	7.65	8.6	10.2	12.53	20.05
	2.0	7.05	5.74	4.88	4.68	4.8	5.2	5.89	8.6
	3.0	4.72	3.76	3.03	2.72	2.58	2.51	2.51	2.77
10		H=20.72	22.67	24.07	24.62	24.89	25.03	25.11	25.17
	0.0	199.91	199.95	200.08	200.01	199.98	199.84	200.12	200
	0.5	42.49	48.52	67.25	85.68	102.05	116.25	128.82	148.96
	1.0	17.48	15.98	17.92	22.72	29.47	37.81	47.54	69.71
	1.5	11.04	9.23	8.58	9.28	10.91	13.49	17.17	28.33
	2.0	8.15	6.57	5.6	5.47	5.77	6.48	7.68	12.15
	3.0	5.45	4.28	3.43	3.07	2.93	2.9	2.97	3.54
15		H=27.82	300.03	31.59	32.19	32.48	32.63	32.71	32.79
	0.0	199.95	199.89	200.08	200.03	199.96	199.91	199.93	200.16
	0.5	48.2	56.19	78.41	98.54	115.36	129.36	141.1	159.55
	1.0	19.77	18.28	21.4	28.06	36.96	47.44	59.03	83.86
	1.5	12.46	10.41	9.89	11.08	13.53	17.26	22.38	37.07
	2.0	9.2	7.36	6.32	6.3	6.84	7.97	9.8	16.36
	3.0	6.16	4.78	3.8	3.43	3.29	3.31	3.49	4.49

Lampiran 3.

Program Uji Kenormalan Bivariat

```
> fix(mtst)
> mtst
function(M)
{
  k <- ncol(M)
  n <- nrow(M)
  center <- apply(M, 2, mean)
  mcov <- var(M)
  dj <- mahalanobis(M, center, mcov)
  j <- c(1:n)
  p <- (j - 0.5)/n
  chi <- qchisq(p, df = k)
  ds <- sort(dj)
  win.graph()
  plot(ds, chi, type = "p")
  return(ks.gof(ds, distr = "chisq", df = k))
}
> x1<-c(-1.190,0.120,-1.690,0.300,0.890,0.820,-0.300,0.630,1.560,1.460)
> x2<-c(0.590,0.900,0.400,0.460,0.750,0.980,2.280,1.750,1.580,3.050)
> M<-matrix(c(x1,x2),ncol=2)
> M
      [,1] [,2]
[1,] -1.19 0.59
[2,]  0.12 0.90
[3,] -1.69 0.40
[4,]  0.30 0.46
[5,]  0.89 0.75
[6,]  0.82 0.98
[7,] -0.30 2.28
[8,]  0.63 1.75
[9,]  1.56 1.58
[10,]  1.46 3.05
```

Output Uji Kenormalan Bivariat

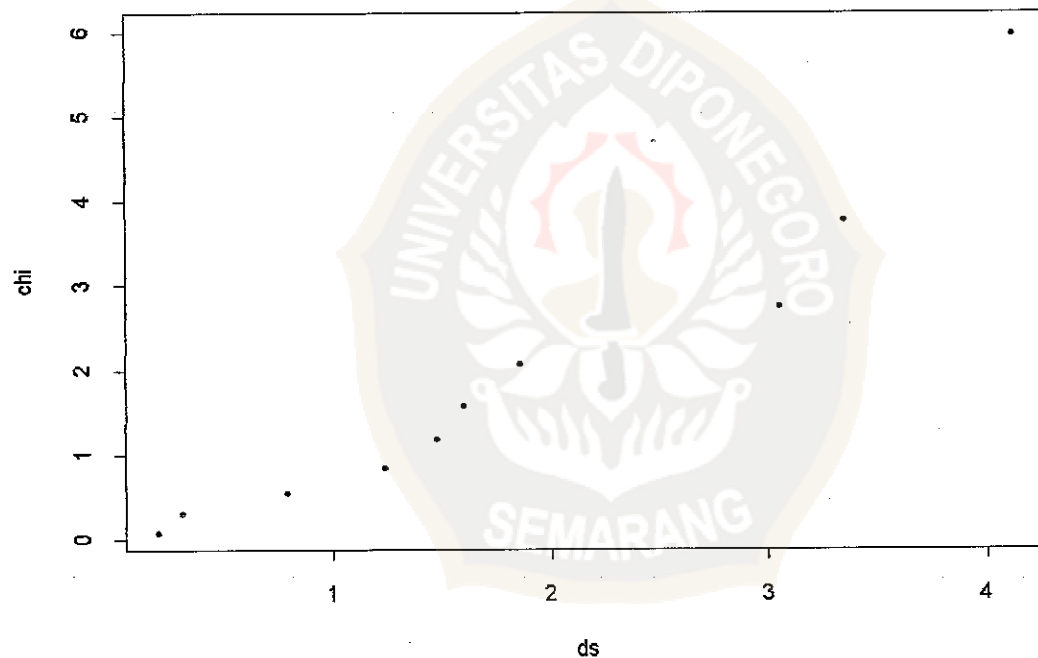
```
> mtst(M)
```

One-sample Kolmogorov-Smirnov Test;
hypothesized distribution = chisquare

data: ds

ks = 0.1621, p-value = 0.919

alternative hypothesis: True cdf does not equal the chisquare Distn. for at least
one sample
point.



V

Lampiran 4.

Tabel Uji Statistik Kolmogorov-Smirnov

One-Sided Test											
$p = .90 \quad .95 \quad .975 \quad .99 \quad .995$						$p = .90 \quad .95 \quad .975 \quad .99 \quad .995$					
Two-Sided Test											
$p = .80 \quad .90 \quad .95 \quad .98 \quad .99$						$p = .80 \quad .90 \quad .95 \quad .98 \quad .99$					
$n = 1$	.900	.950	.975	.990	.995	$n = 21$	.226	.259	.287	.321	.344
2	.684	.776	.842	.900	.929	22	.221	.253	.281	.314	.337
3	.565	.636	.708	.785	.829	23	.216	.247	.275	.307	.330
4	.493	.565	.624	.689	.734	24	.212	.242	.269	.301	.323
5	.447	.509	.563	.627	.669	25	.208	.238	.264	.295	.317
6	.410	.468	.519	.577	.617	26	.204	.233	.259	.290	.311
7	.381	.436	.483	.538	.576	27	.200	.229	.254	.284	.305
8	.358	.410	.454	.507	.542	28	.197	.225	.250	.279	.300
9	.339	.387	.430	.480	.513	29	.193	.221	.246	.275	.295
10	.323	.369	.409	.457	.489	30	.190	.218	.242	.270	.290
11	.308	.352	.391	.437	.468	31	.187	.214	.238	.266	.285
12	.296	.338	.375	.419	.449	32	.184	.211	.234	.262	.281
13	.285	.325	.361	.404	.432	33	.182	.208	.231	.258	.277
14	.275	.314	.349	.390	.418	34	.179	.205	.227	.254	.273
15	.266	.304	.338	.377	.404	35	.177	.202	.224	.251	.269
16	.258	.295	.327	.366	.392	36	.174	.199	.221	.247	.265
17	.250	.286	.318	.355	.381	37	.172	.196	.218	.244	.262
18	.244	.279	.309	.346	.371	38	.170	.194	.215	.241	.258
19	.237	.271	.301	.337	.361	39	.168	.191	.213	.238	.255
20	.232	.265	.294	.329	.352	40	.165	.189	.210	.235	.252
Approximation for $n > 40$							$\frac{1.07}{\sqrt{n}}$	$\frac{1.22}{\sqrt{n}}$	$\frac{1.36}{\sqrt{n}}$	$\frac{1.52}{\sqrt{n}}$	$\frac{1.63}{\sqrt{n}}$

SOURCE. Adapted from Table 1 of Miller (1956).

* The entries in this table are selected quantiles w_p of the Kolmogorov test statistics T_1 , T_1^+ , and T_1^- as defined by (6.1.1) for two-sided tests and by (6.1.2) and (6.1.3) for one-sided tests. Reject H_0 at the level α if T exceeds the $1 - \alpha$ quantile given in this table. These quantiles are exact for $n \leq 20$ in the two-tailed test. The other quantiles are approximations which are equal to the exact quantiles in most cases.