

Case i: Gamma Distribution

ARL Table for scale parameter increase from the in-control value in $G(1.1, 1.5)$

β	μ_X	$n = 5$				$n = 10$				$n = 20$			
		\bar{X} chart		\tilde{X} chart		\bar{X} chart		\tilde{X} chart		\bar{X} chart		\tilde{X} chart	
		ARL	SDRL	ARL	SDRL	ARL	SDRL	ARL	SDRL	ARL	SDRL	ARL	SDRL
1.50	1.6	0	0	0	0	97.28	97.90	98.92	99.39	97.08	97.51	97.76	98.46
1.75	1.9	0	0	0	0	35.07	35.70	40.91	41.66	22.79	23.35	26.45	26.84
2.00	2.2	0	0	0	0	11.98	12.54	15.25	15.62	5.73	6.24	7.29	7.78
2.25	2.5	0	0	0	0	5.21	5.67	7.03	7.51	2.14	2.59	2.82	3.30
2.50	2.8	0	0	0	0	2.75	3.22	3.80	4.29	0.95	1.37	1.32	1.73
3.00	3.3	0	0	0	0	1.01	1.44	1.46	1.91	0.25	0.56	0.38	0.72
3.50	3.9	0	0	0	0	0.45	0.81	0.71	1.11	0.07	0.27	0.12	0.37