

# 台中西屯 PM 2.5 監測





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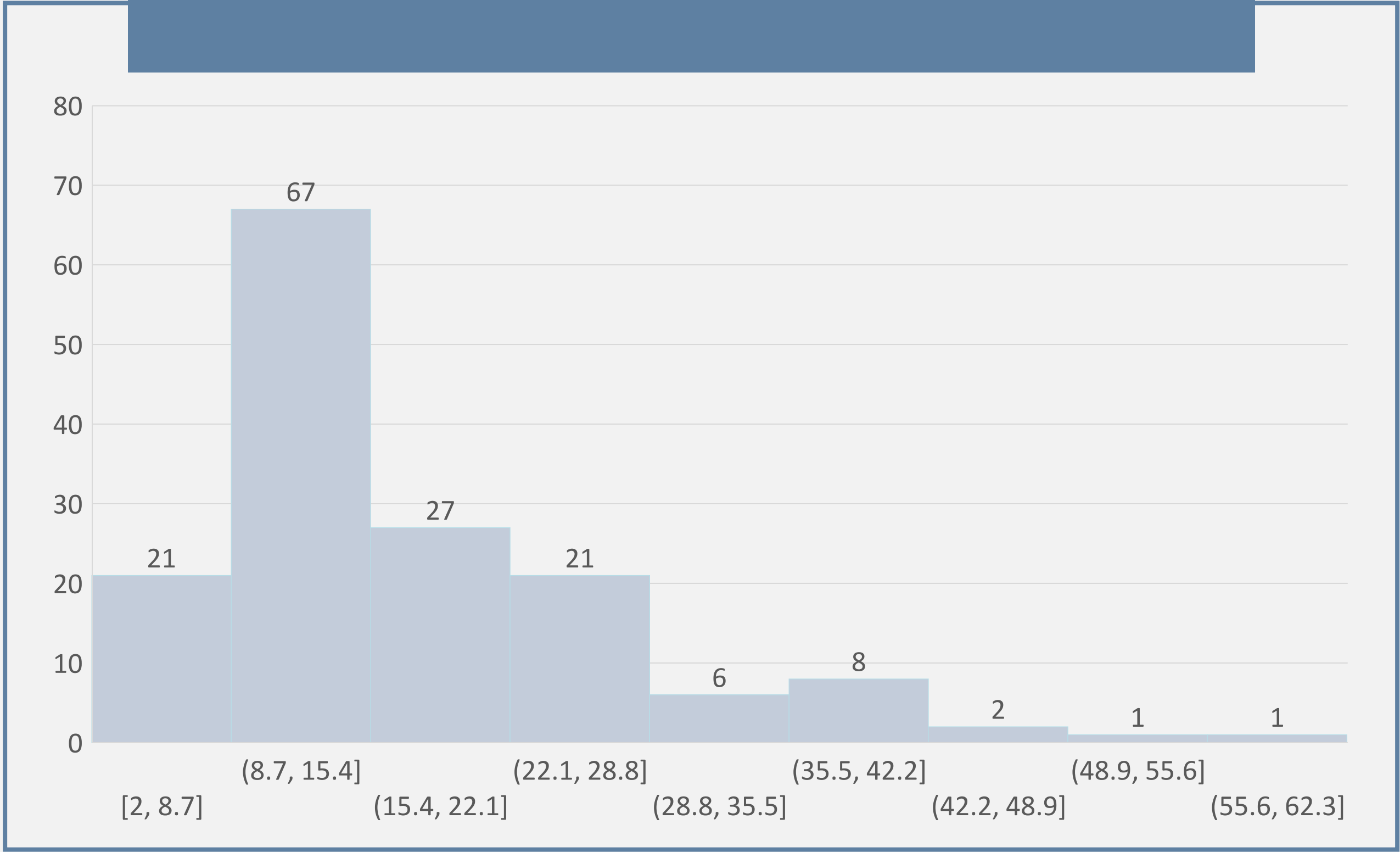
# 資料集

測站	日期	測項	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
西屯	2023/10/01	PM2.5	23	21	21	28	19	24	18	20	25	24	24	17	10	10	11	13	17	9	10	14	10	11	8	13
西屯	2023/10/02	PM2.5	9	13	10	11	9	14	15	19	14	15	15	14	15	17	17	14	10	13	15	15	10	7	7	7
西屯	2023/10/03	PM2.5	5	8	9	9	9	11	13	11	8	#	9	11	10	12	12	*	8	21	11	7	9	12	20	16
西屯	2023/10/04	PM2.5	17	18	12	11	7	9	15	5	12	10	10	14	15	11	16	12	8	4	11	9	10	11	10	6
西屯	2023/10/05	PM2.5	2	6	6	5	*	6	4	7	8	10	11	17	19	22	24	22	15	14	18	26	28	26	18	19
西屯	2023/10/06	PM2.5	15	14	11	11	16	13	14	22	17	19	22	22	25	17	16	18	17	19	14	10	14	17	17	11
西屯	2023/10/07	PM2.5	8	12	20	26	24	15	19	10	21	15	13	19	15	16	11	12	7	7	8	8	4	2	4	4
西屯	2023/10/08	PM2.5	7	5	3	4	6	4	1	4	5	7	7	8	8	10	14	12	11	11	7	10	8	7	7	6
西屯	2023/10/09	PM2.5	4	7	7	3	4	7	3	2	3	8	9	10	11	12	11	10	9	5	10	13	9	8	5	2
西屯	2023/10/10	PM2.5	12	10	5	6	8	5	2	3	3	1	2	3	4	5	7	10	13	15	11	11	11	7	11	6
西屯	2023/10/11	PM2.5	5	7	7	7	8	8	8	8	12	11	11	11	9	13	7	7	8	14	12	8	8	10	11	10
西屯	2023/10/12	PM2.5	11	9	6	6	7	7	11	7	13	9	#	10	10	14	14	13	12	13	11	10	11	16	11	12
西屯	2023/10/13	PM2.5	10	11	9	11	10	11	8	12	15	28	23	18	16	12	13	14	18	14	12	16	16	13	11	9
西屯	2023/10/14	PM2.5	10	11	11	12	7	5	8	9	12	16	11	11	10	11	11	10	19	17	26	28	24	19	21	14

來源 : <https://airtw.moenv.gov.tw/CHT/Query/InsValue.aspx>

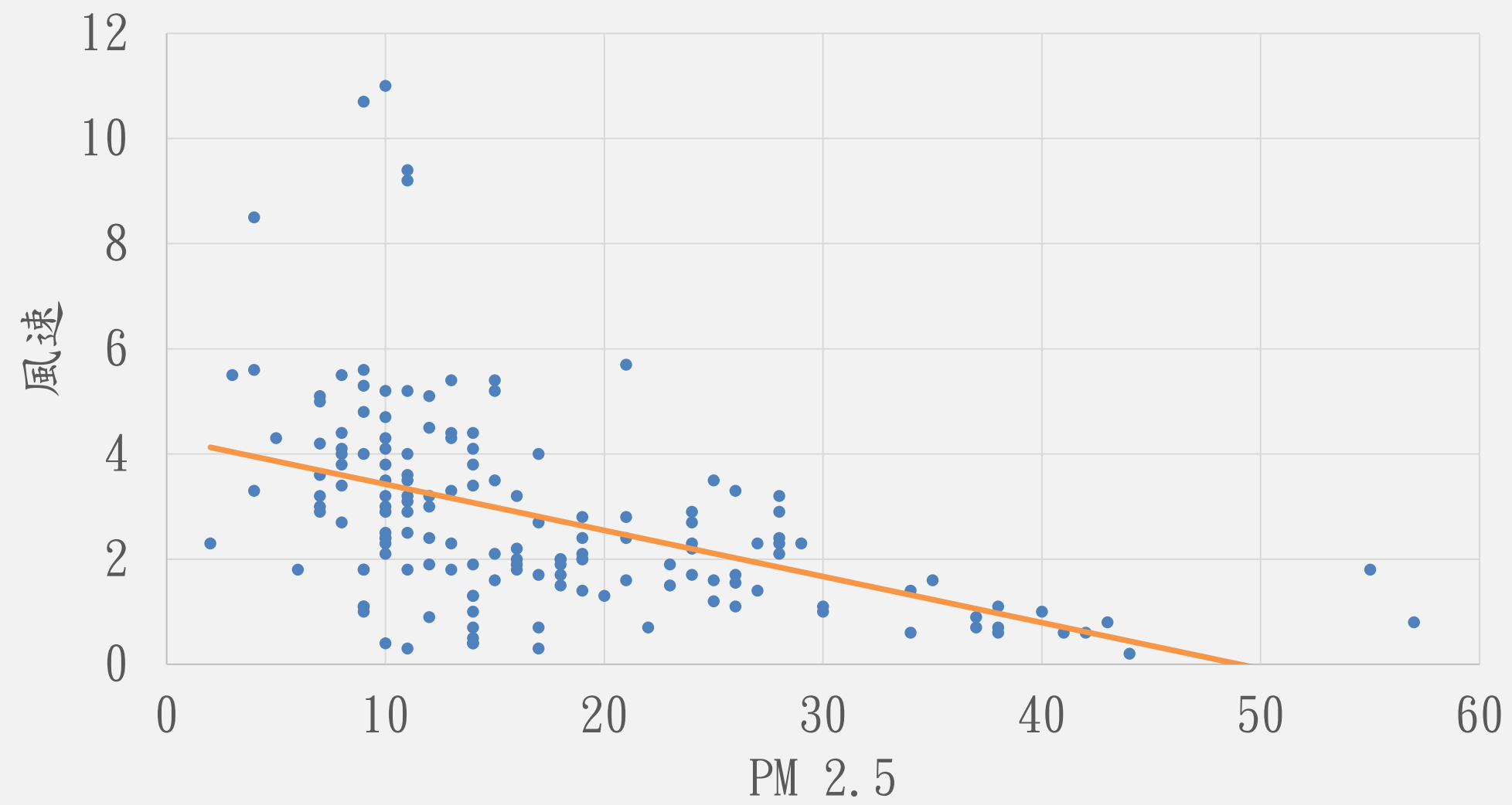


# 直方圖

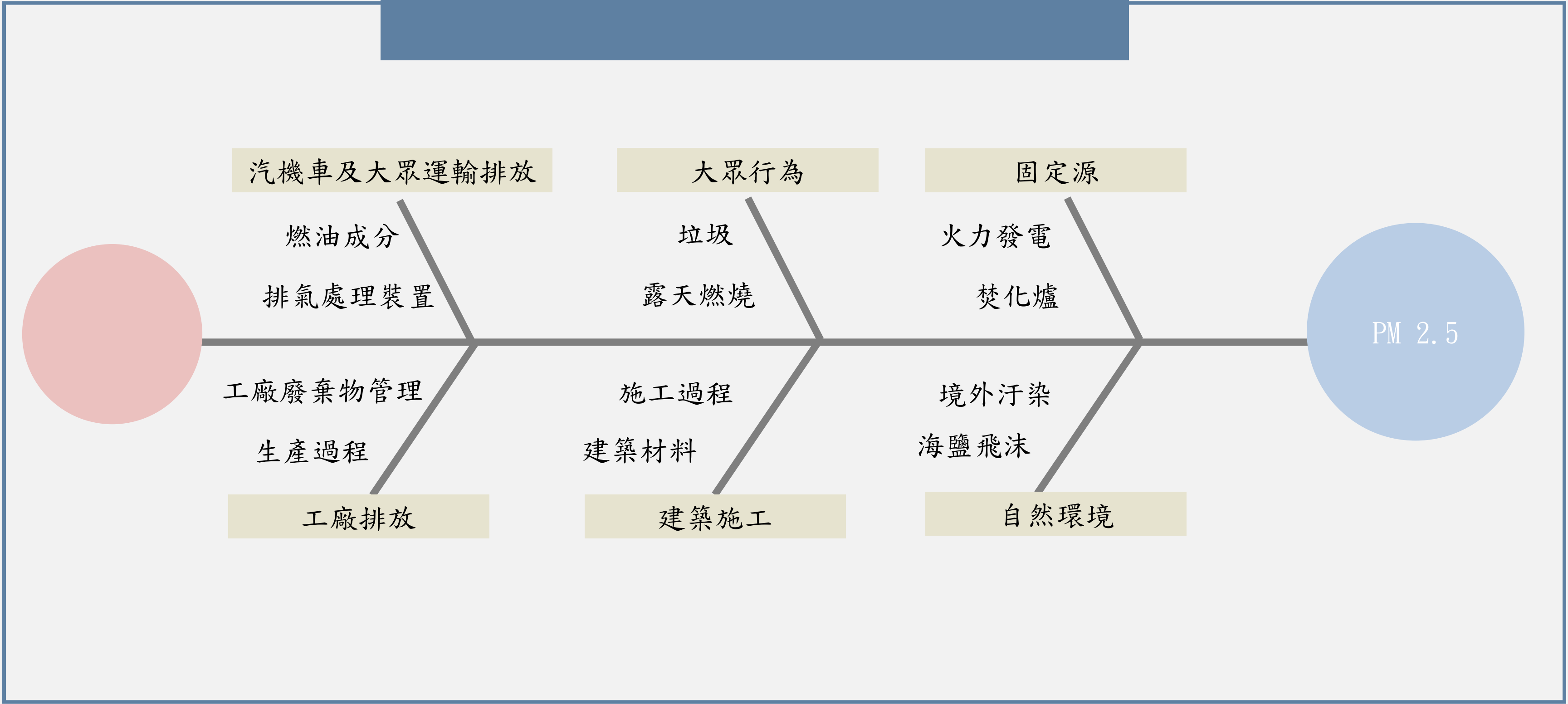


# 散布圖

PM 2.5 vs 風速

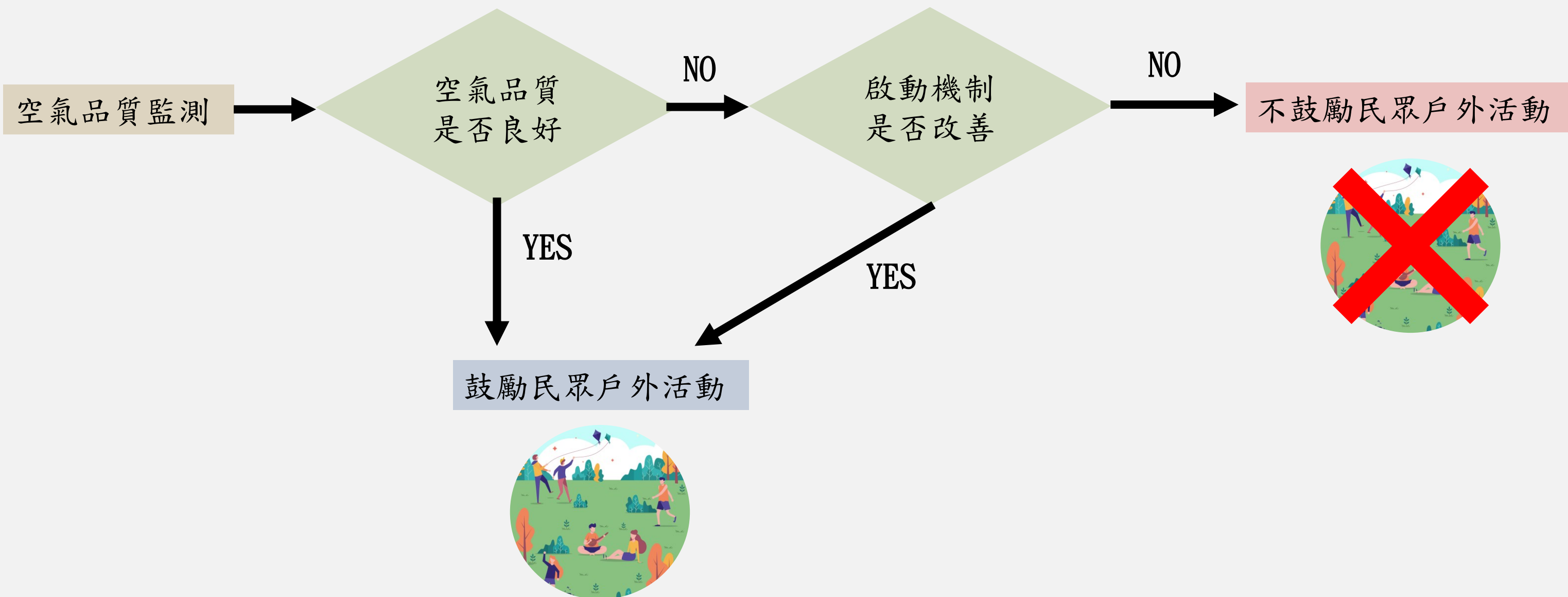


魚骨圖

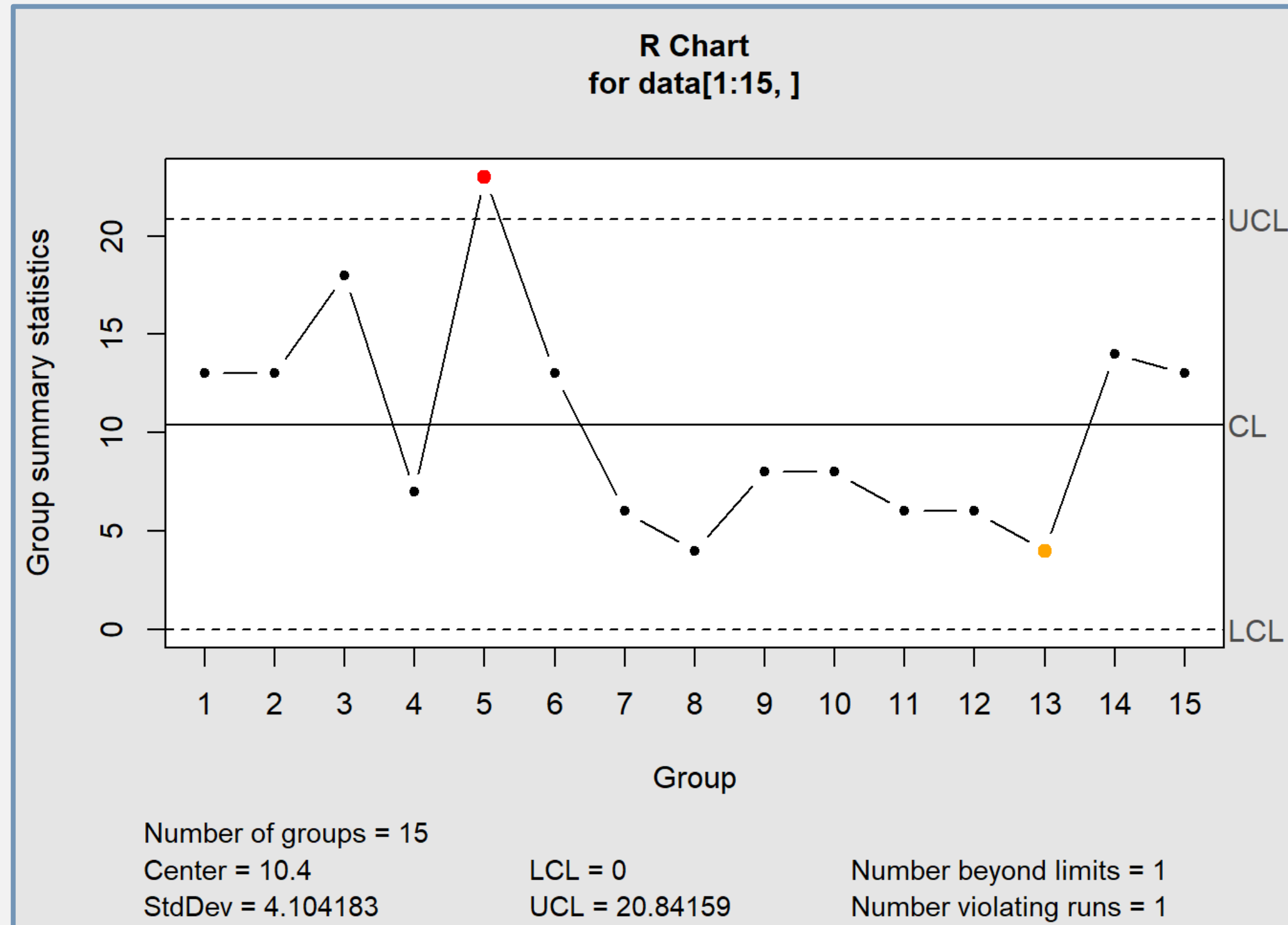




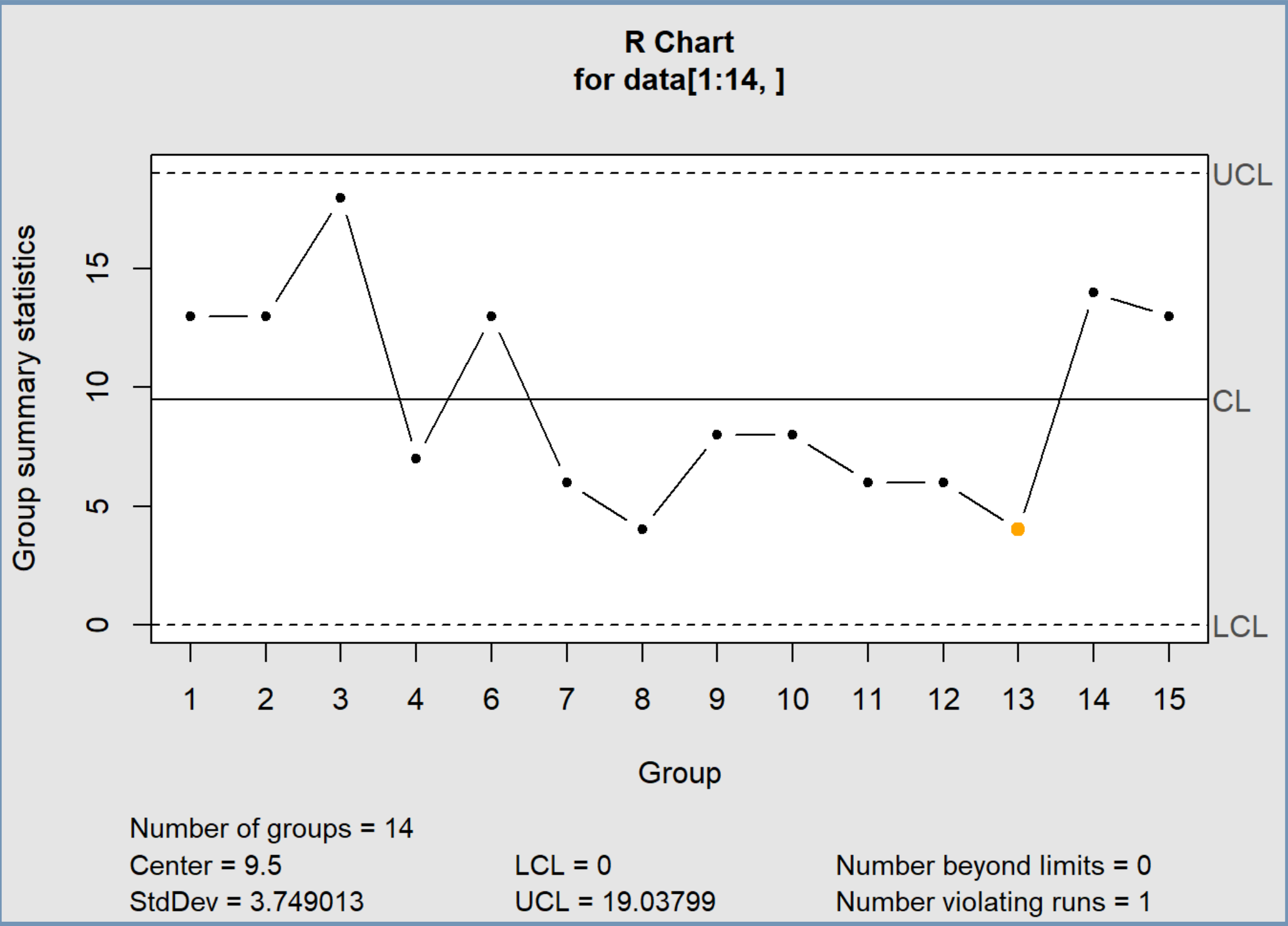
# 流程圖

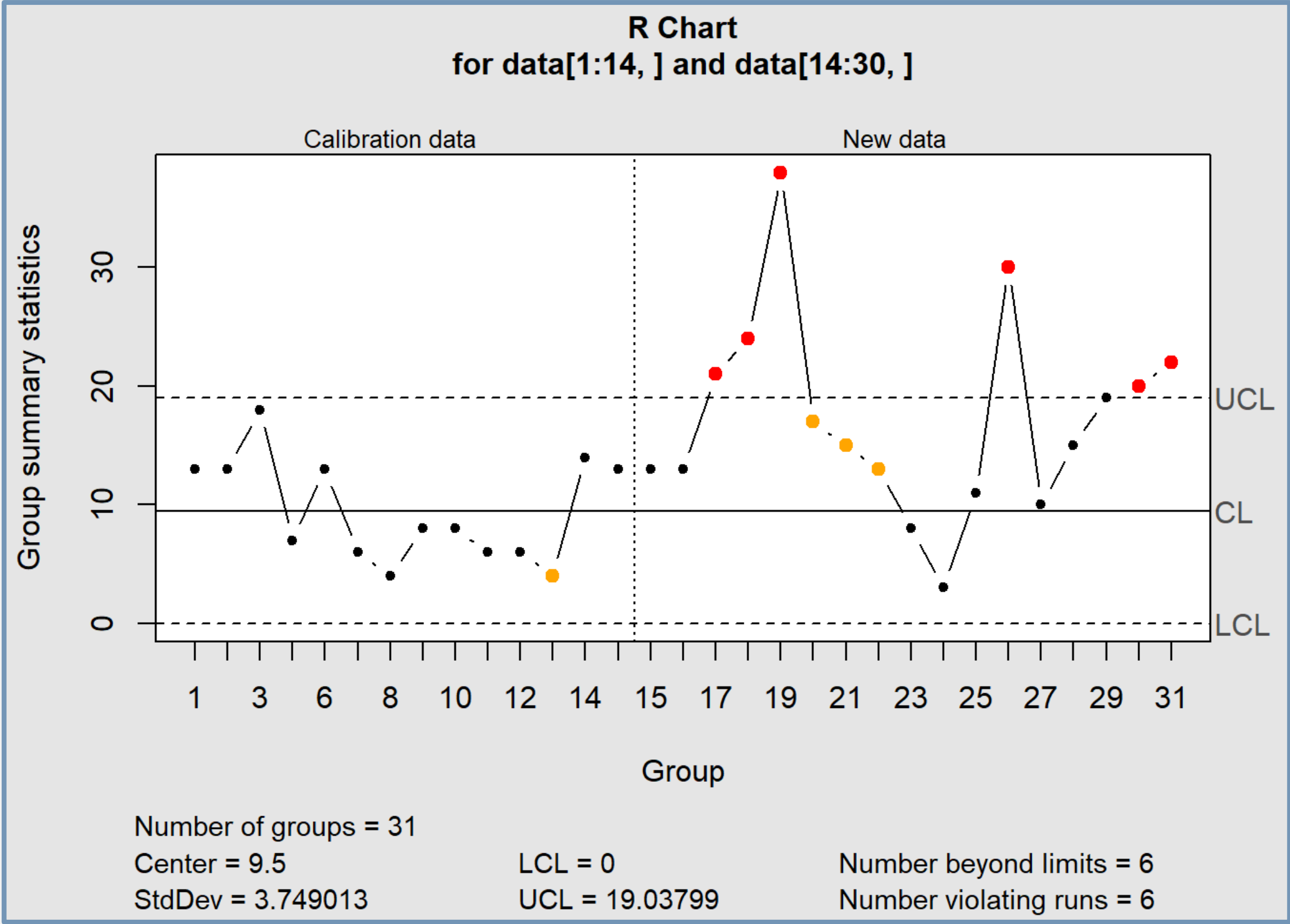


# *R control chart*

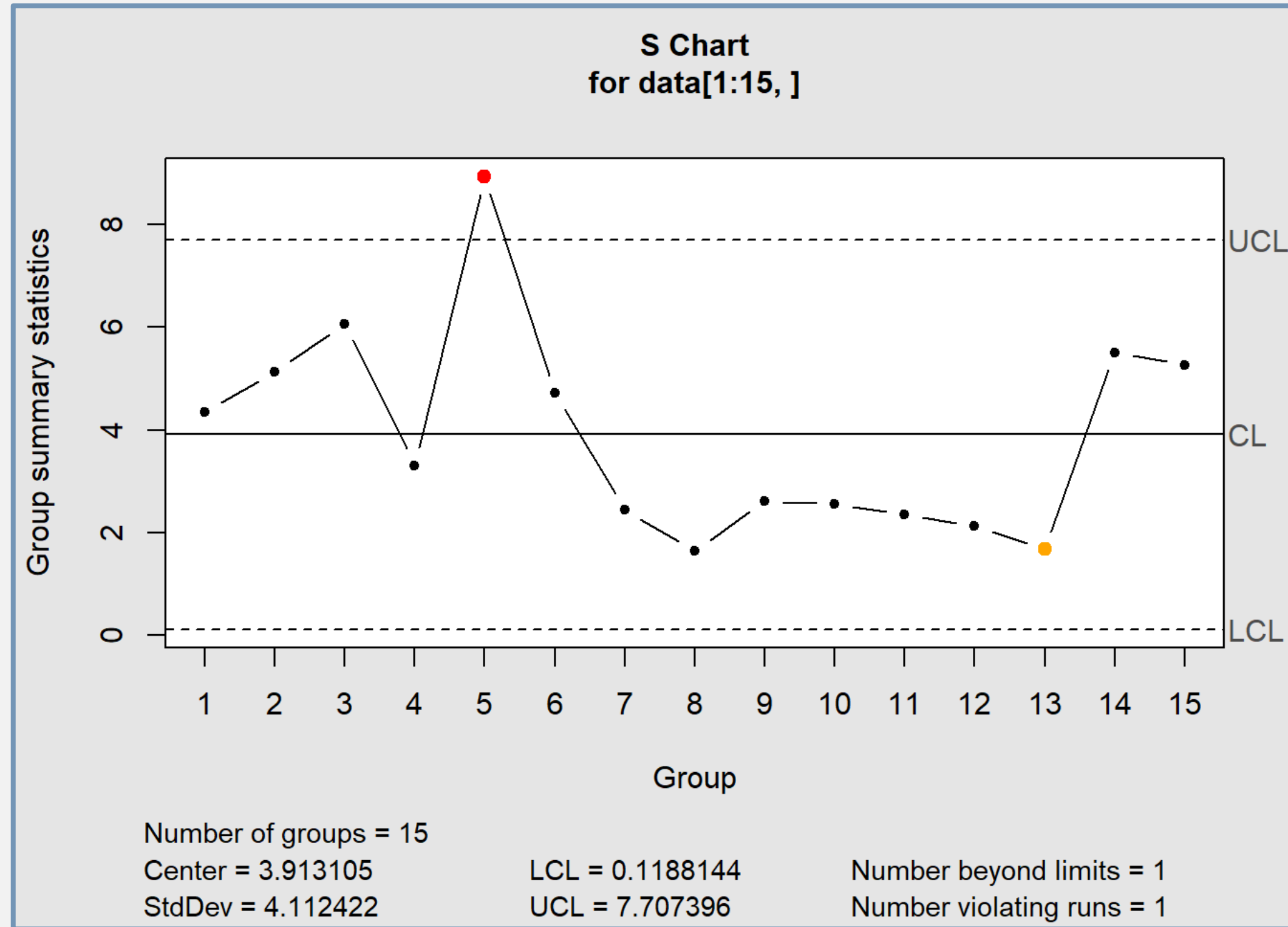




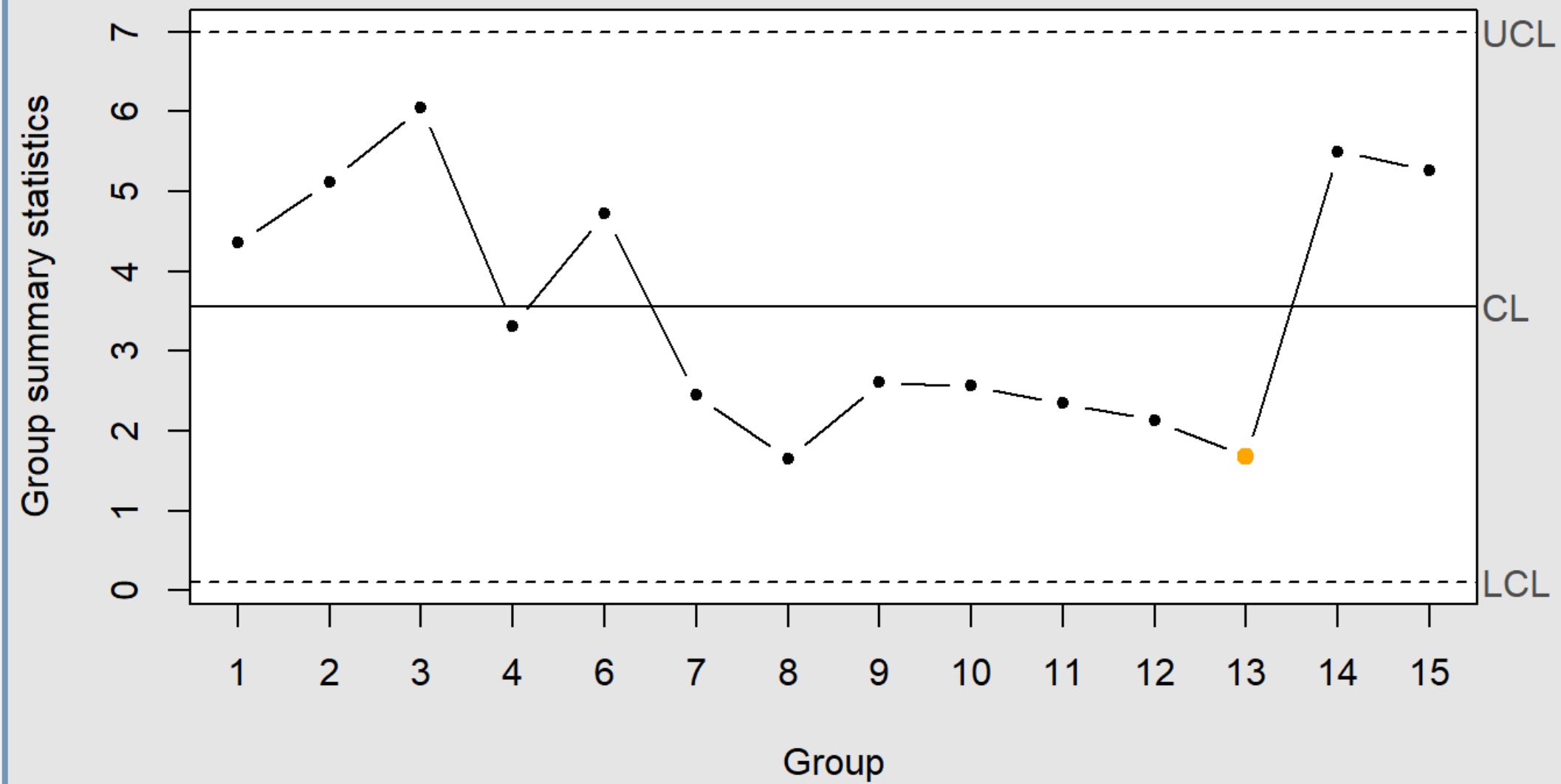




# *S control chart*



S Chart  
for data[1:14, ]



Number of groups = 14

Center = 3.554136

StdDev = 3.735168

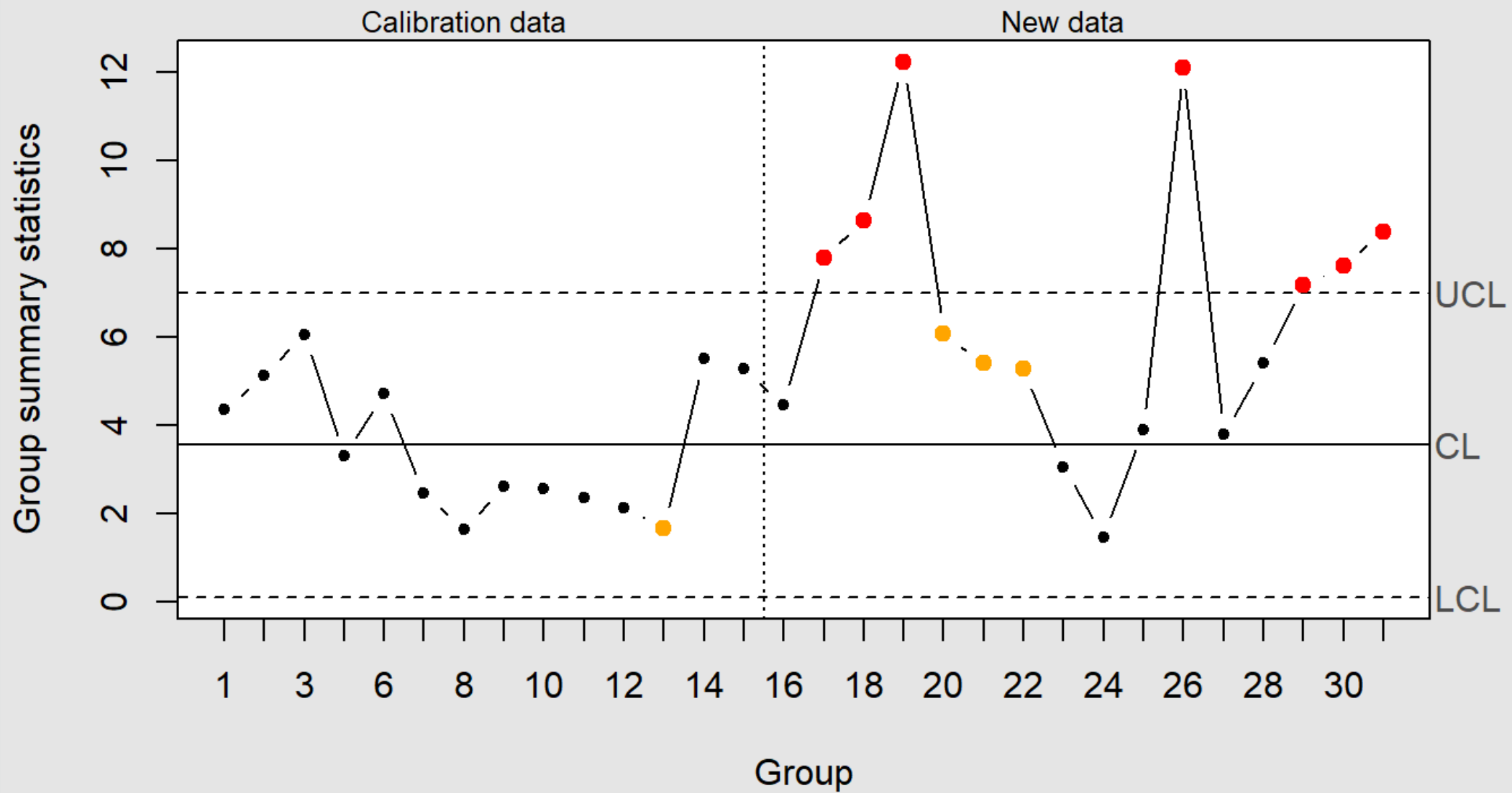
LCL = 0.107915

UCL = 7.000356

Number beyond limits = 0

Number violating runs = 1

**S Chart**  
for data[1:14, ] and data[15:30, ]



Number of groups = 30

Center = 3.554136

StdDev = 3.735168

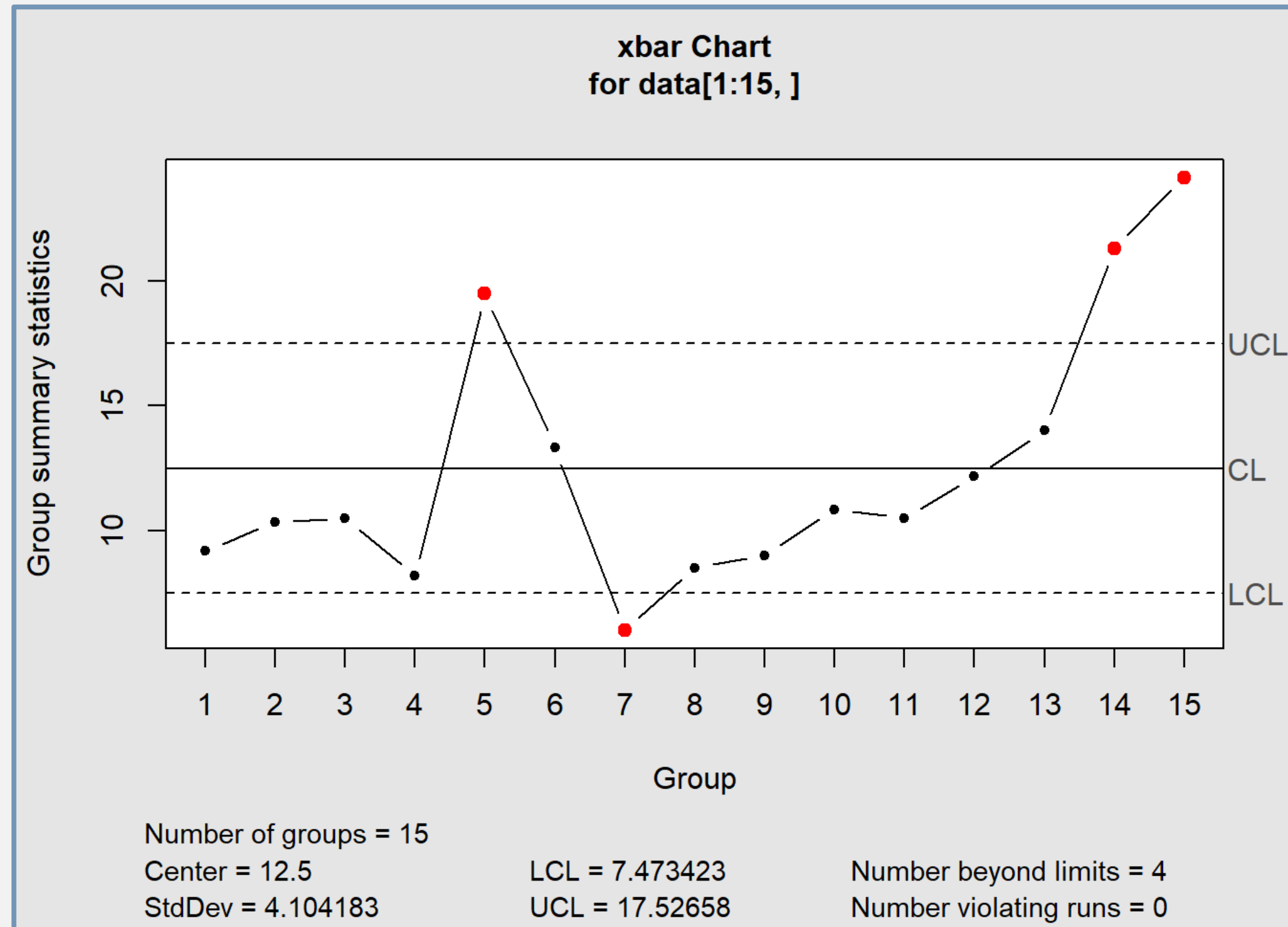
LCL = 0.107915

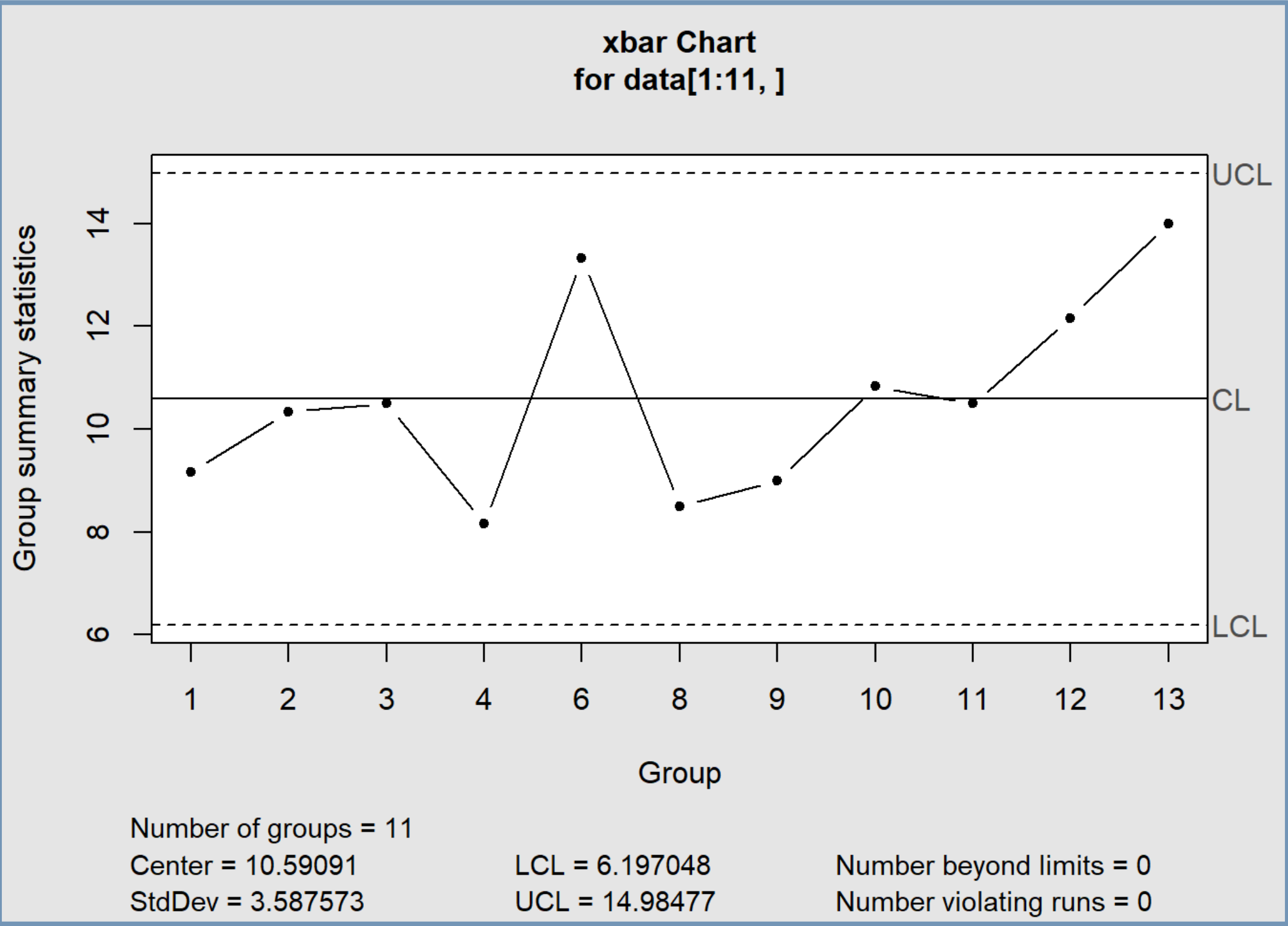
UCL = 7.000356

Number beyond limits = 7

Number violating runs = 5

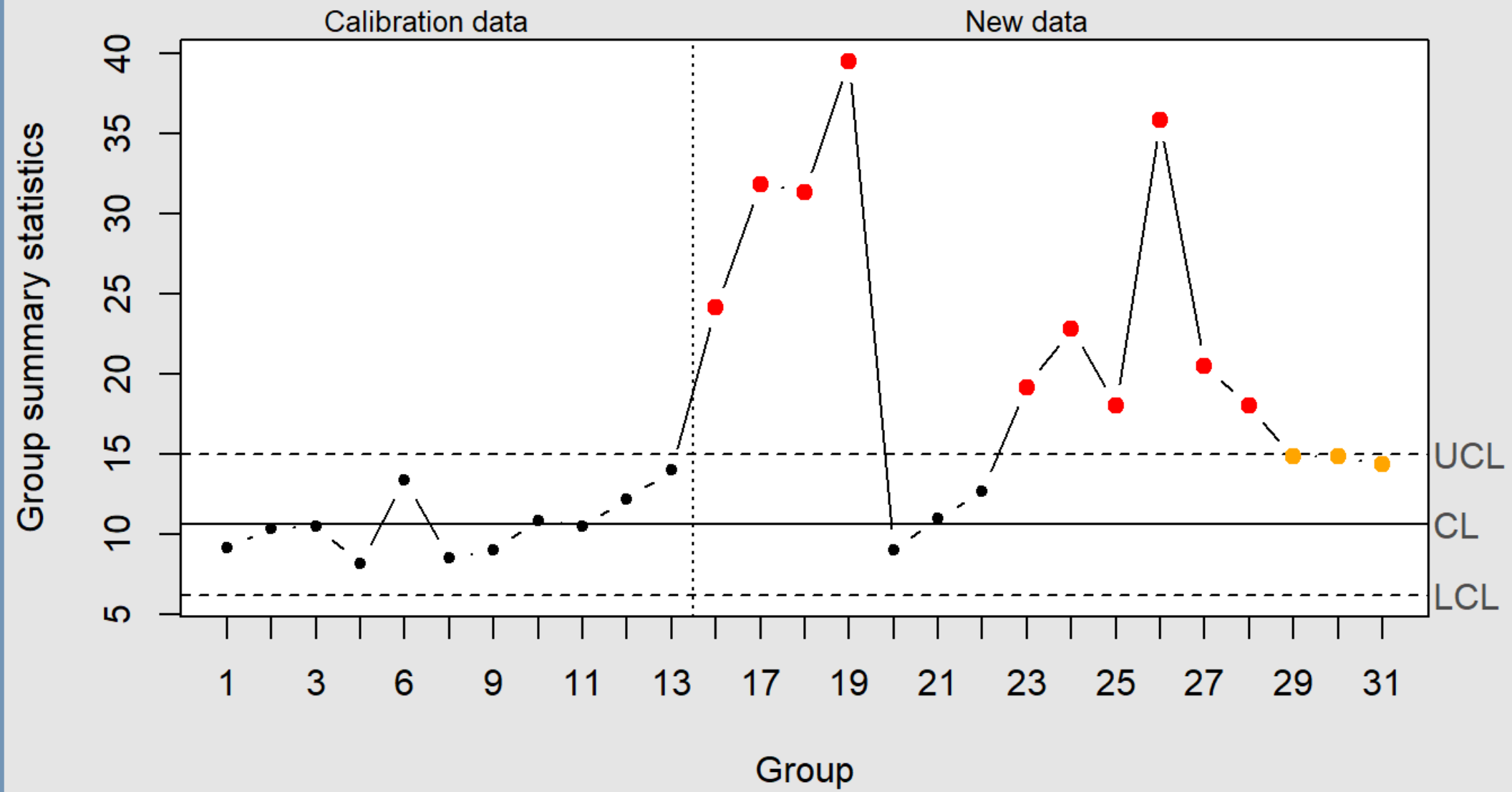
# $\bar{X}$ control chart







**xbar Chart**  
for data[1:11, ] and data[12:27, ]



Number of groups = 27

Center = 10.59091

StdDev = 3.587573

LCL = 6.197048

UCL = 14.98477

Number beyond limits = 10

Number violating runs = 5

**THANK YOU**