

$$H_0: \mu_1 = \mu_2 = \mu_3, n = 5+5+5 = 15$$

9-11

$$SST = \sum_{i=1}^k \sum_{j=1}^{n_i} y_{ij}^2 - \frac{T^2}{n} = 224 \quad \text{自由度 } 15-1=14$$

$$SSTR = \sum_{i=1}^k \left(\frac{T_i^2}{n_i} \right) - \frac{T^2}{n} = 130 \quad \text{自由度 } 3-1=2$$

$$SSE = SST - SSTR = 94 \quad \text{自由度 } 14-2=12$$

	平方和	自由度	均方	F 统计量
机器	$SSTR = 130$	$3-1=2$	$MSTR = 65.00$	$\frac{65}{7.83} = 8.30$
随机误差	$SSE = 94$	$14-2=12$	$MSE = 7.83$	
总和	$SST = 224$	$15-1=14$		

$$F = 8.30 > F_{0.05}(2, 12) = 3.89$$

$$\mu_2 - \mu_1 (56-49) \pm 2.779 \times 2.80 \times \sqrt{\frac{1}{5} + \frac{1}{5}} = (2.079, 11.921)$$

$$\mu_3 - \mu_2 (51-56) \pm 2.779 \times 2.80 \times \sqrt{\frac{1}{5} + \frac{1}{5}} = (-9.921, -0.079)$$

$$\mu_3 - \mu_1 (51-49) \pm 2.779 \times 2.80 \times \sqrt{\frac{1}{5} + \frac{1}{5}} = (-2.921, 6.921)$$

9-13

$$M = \left(\frac{3}{2} \right)_{23} \quad F_{0.05}(3-1, 15-3) = 2.8$$

$$S = \sqrt{MSE} = \sqrt{7.83} = 2.80, \sqrt{(k-1)F} = \sqrt{(3-1)2.89} = 2.179$$

$$\mu_2 - \mu_1 (56-49) \pm 2.779 \times 2.80 \times \sqrt{\frac{1}{5} + \frac{1}{5}} = (2.059, 11.941)$$

$$\mu_3 - \mu_2 (51-56) \pm 2.779 \times 2.80 \times \sqrt{\frac{1}{5} + \frac{1}{5}} = (-9.941, -0.059)$$

$$\mu_3 - \mu_1 (51-49) \pm 2.779 \times 2.80 \times \sqrt{\frac{1}{5} + \frac{1}{5}} = (-2.941, 6.941)$$