南京大学 NANJING UNIVERSITY 工程管理学院 SCHOOL OF MANAGEMENT & ENGINEERING

插值法

温丹苹

邮箱：dpwen@nju.edu.cn

办公室：工管院协鑫楼306

上机作业

1. The expected lifetime of an industrial fan when operated at the listed temperature is shown in the table that follows. Estimate the lifetime at 70◦C by using all four points with Lagrange interpolation. 小数点后保留 1 位。

temp (°C)	hrs (×1000)
25	95
40	75
50	63
60	54

上机作业

2. The total world oil production in millions of barrels per day is shown in the table that follows. Determine and plot the degree 9 polynomial through the data. Use it to estimate 2010 oil production. Does the Runge phenomenon occur in this example? In your opinion, is the interpolating polynomial a good model of the data? Explain. (小数点后保留3位）

year	bbl/day ($\times 10^6$)
1994	67.052
1995	68.008
1996	69.803
1997	72.024
1998	73.400
1999	72.063
2000	74.669
2001	74.487
2002	74.065
2003	76.777

注：问题答案放在代码页的最上面，以注释形式出现。

- Q & A
- 谢谢