1.9 Values of NM and Nf : statistical error analysis

- Values used

NM\* = 80

Nf\* = 5

|  |  |
| --- | --- |
| T = 1.9, (B, C) = (0, -1), NM = 10 | |
| Nf | rc | | |rc| x sqrt(Nf) |
| 3 | 0.0927 | | 0.0967 x 1.732 = 0.161 |
| 3.5 | 0.0623 | | 0.0623 x 1.871 = 0.117 |
| 4 | 0.0456 | | 0.0456 x 2.000 = 0.091 |
| 4.5 | 0.0343 | | 0.0343 x 2.121 = 0.073 |
| 4.75 | 0.0266 | | 0.0266 x 2.180 = 0.058 |
| 5 | 0.0196 | | 0.0196 x 2.236 = 0.048 |
| 5.25 | 0.0198 | | 0.0198 x 2.291 = 0.045 |
| Nf\* = 5 | |rc| < 0.02 | |  |

|  |  |
| --- | --- |
| T = 1.9, (B, C) = (0, -1), NF = 10 | |
| NM | σc | | σc x sqrt(NM) |
| 5 | 0.0820 | | 0.0820 x 2.236 = 0.183 |
| 30 | 0.0318 | | 0.0318 x 5.477 = 0.174 |
| 50 | 0.0229 | | 0.0229 x 7.071 = 0.162 |
| 70 | 0.0222 | | 0.0222 x 8.367 = 0.186 |
| 75 | 0.0216 | | 0.0216 x 8.660 = 0.187 |
| 80 | 0.0197 | | 0.0197 x 8.944 = 0.176 |
| NM\* = 80 | σc < 0.02 | |  |

Challenge 1: B = .7, C = -0.5

Challenge 2: B = ,.25 C = -0.12

I intend to solve more challenges in the following days, I also intend to better optimize my code to have a faster run time.