Q1 Which regression method gave an exponent closer to the expected value? Can you see the difference on the plots?

Answer:

The non-linear fitting gives out a better result which closer to the expected value. The non-linear diagram gets closer to the original experimental data diagram as the exponential value is 0.569162 compare to the linear method’s 0.569138, and the expected value is 0.5882.

Q2 Modify your program from Section 5 to calculate the standard deviation of the parameters. What values did you find? Does the value of your fitted exponent fall within the range of the blackbody value (3/5) with your calculated standard deviation? What about the expected value for tungsten?

Answer:

For linear-fitting, the standard deviation is 0.002748. and for non-linear method, the standard deviation is 0.002752.