

Figure 1 – The expected gain was 2.008. $R1=50.8\text{ k}\Omega$ and $R2=51.2\text{ k}\Omega$. The uncertainty for the average input and output voltages were the standard deviation of the measurements recorded. The error bars represent the uncertainty, which is negligible compared to the size of the data point.

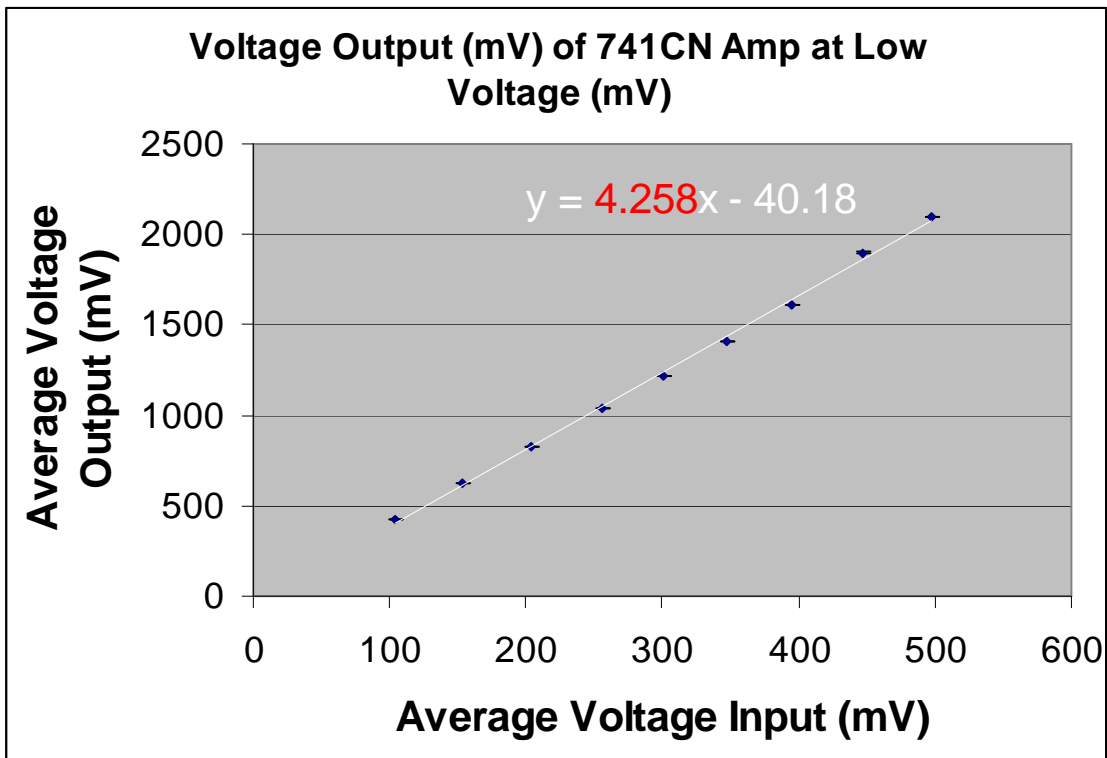


Figure 2 – The expected gain was 4.083, meaning the error was 4.29%. $R1=50.8\text{ k}\Omega$ and $R2=156.6\text{ k}\Omega$. The uncertainty for the average input and output voltages were the standard deviation of the

measurements recorded. The error bars represent the uncertainty, which is negligible compared to the size of the data point.

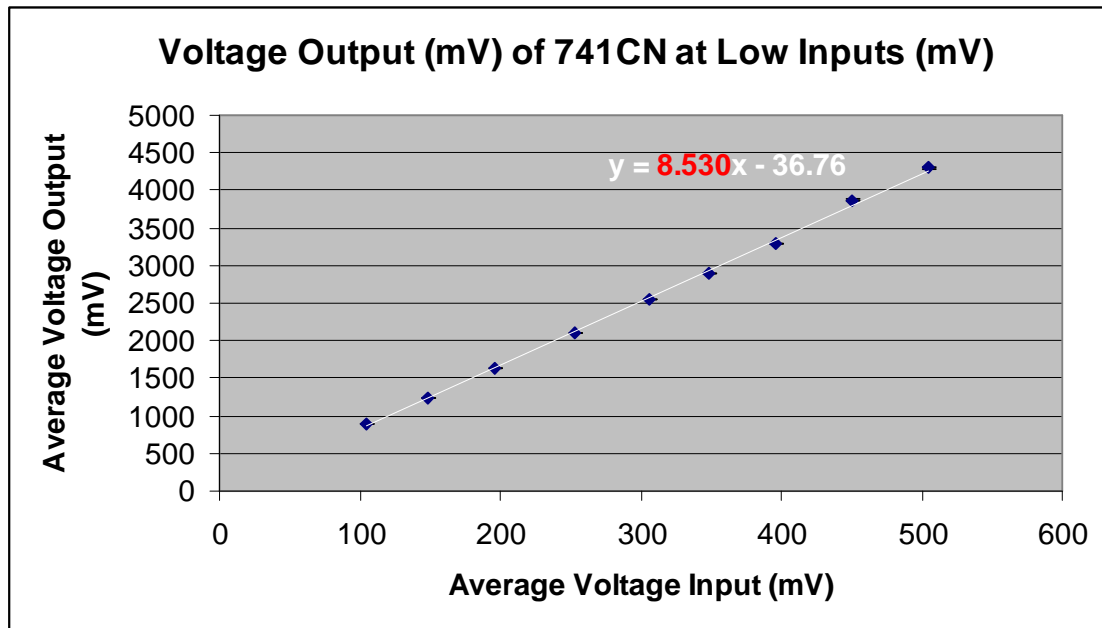


Figure 3 – The expected gain was 8.219, meaning the error was 3.78%. $R_1=50.8\text{ k}\Omega$ and $R_2=366.7\text{ k}\Omega$. The uncertainty for the average input and output voltages were the standard deviation of the measurements recorded. The error bars represent the uncertainty, which is negligible compared to the size of the data point.

The 741CN accurately amplifies signals below roughly 13 V regardless of how small the signal or how great the gain.