Appendix

$$Equation\,1 \qquad E = \hbar v_f \left|\vec{k}\right|$$

$$Equation\,2 \qquad \frac{4e^2}{h}$$

$$Equation\,3 \qquad \sigma_{xy} = \pm \frac{4e^2}{h} N$$

$$Equation\,4 \qquad \sigma_{xy} = \pm \frac{4e^2}{h}\left(N + 1/2\right)$$

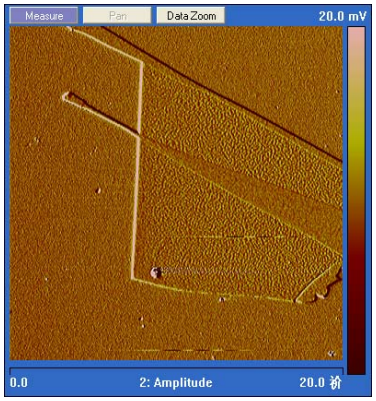

Figure 1 – Possible single layer graphene before gold was deposited.

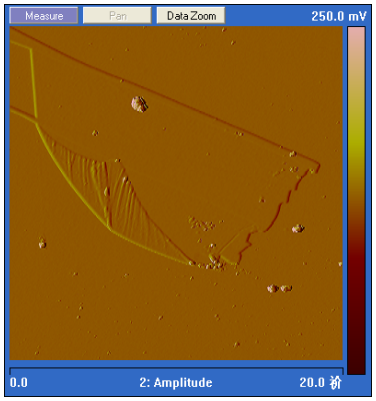

Figure 2 – Same sample after gold has been deposited. Folding can be seen in the bottom left side.

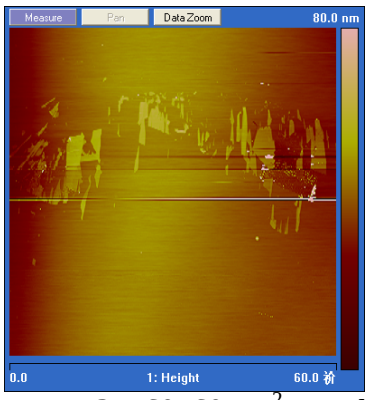

Figure 3 – 60x60 um^2 sample observed by depositing gold colloid before graphene.

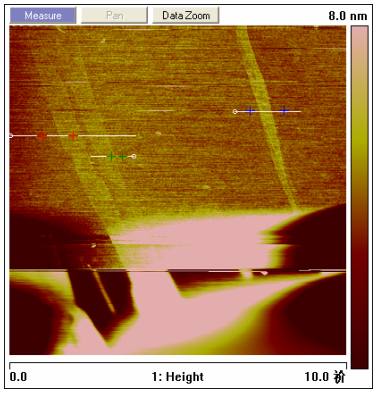

Figure 4 – Two graphene ribbons can be seen on the left while a large sheet is on the right with its edge folded over on top of itself. Distortion at the bottom is due to the silicon cantilever wearing out half way through this three-hour scan.

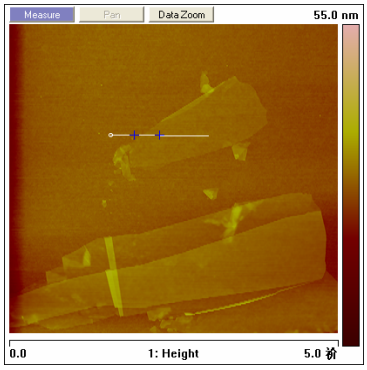

Figure 5 – Graphene sitting off the side of a larger piece of multi-layer graphene.

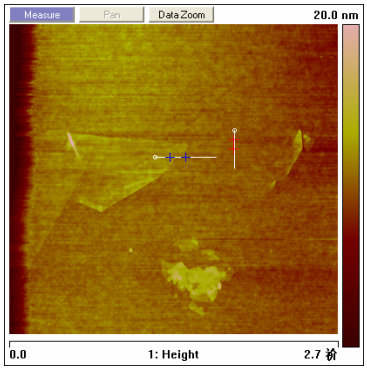

Figure 6 – Relativity small piece of graphene showing some of the ways it folds onto itself. The step measured by the blue line shows it folding over itself twice at this point.

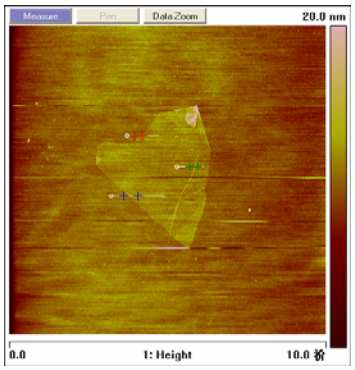

Figure 7 – Nice sample of graphene sitting off to the side of a larger field. White spots are clumps of colloidal gold measuring 80nm in height compared to the graphene's 0.8nm.

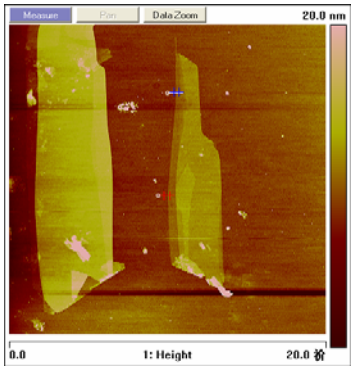

Figure 8 – Large sample of bi-layer graphene along side a large multi-layer piece. Again, large white spots can be seen around most samples of this nature.

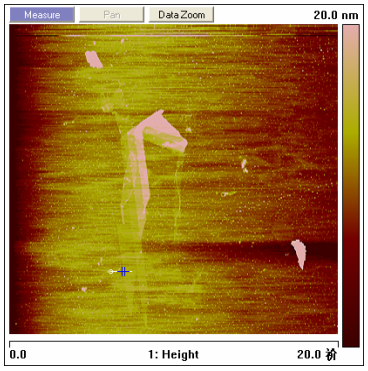

Figure 9 – Another graphene ribbon connected to a larger piece. This high-resolution image shows large clumps of gold in the top left and bottom right corners along with many individual nano-particles of gold surrounding the piece.

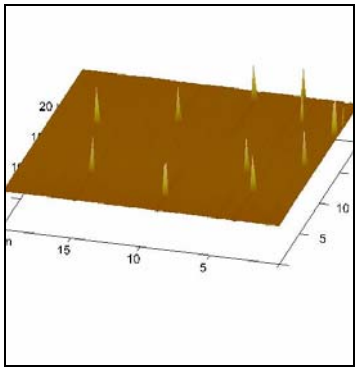

Figure 10 – Gold particles on the SiO_2 substrate without graphite deposition shows how the gold might act as a source of friction.

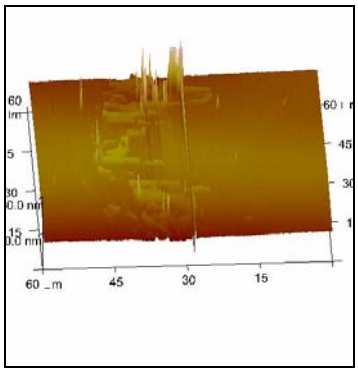

Figure 11 – 3-D scan of figure 3 shows large clumps of gold at the top center that may have reached a certain point where they adhere to the substrate firmly, shearing off layers of graphene acting like an anchor.