

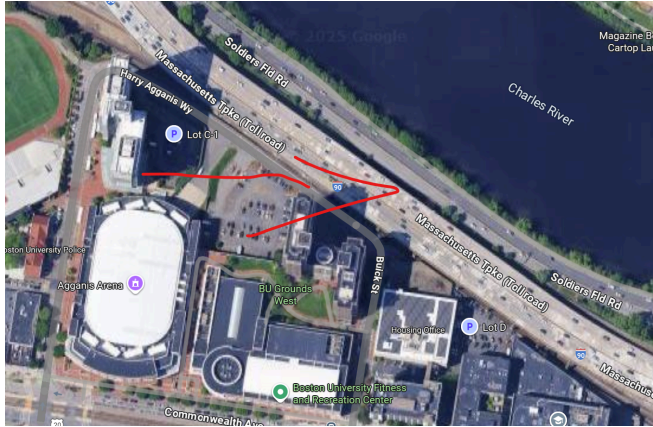
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IN 250

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Autumnal Equinox Report

First Observation



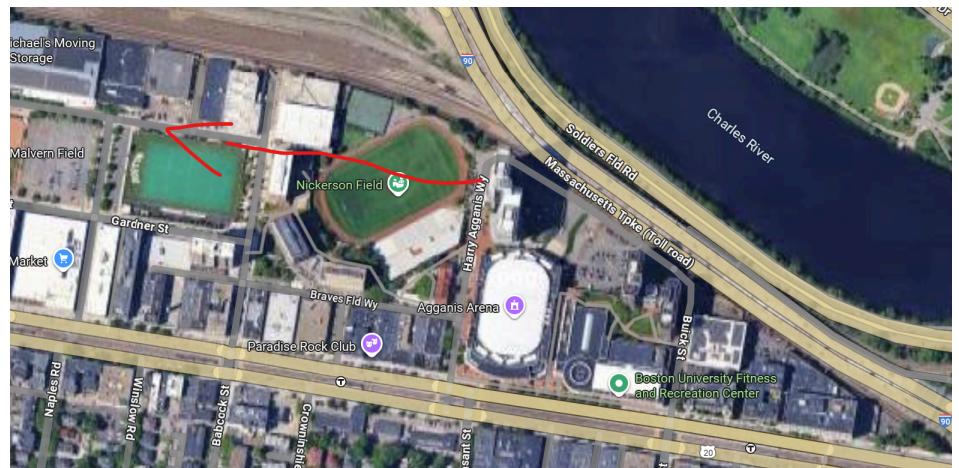
The picture above was taken at 6:30 am on September 9th, 2025. I took this picture in the morning because I have an eastern facing room in Student Village 2 on a high floor where I can get a perfect view of the sunrise. This was around 15 minutes after the initial time of the sunrise. As you can see from the map above, the red arrow was my direction of sight, as the sun appeared to be a little to the left of Student Village 1, which is the building in the window which is closest to me and also a little south of the true east which can be seen from the map. When taking this picture, I made sure to make the sun the center of attention and prop my phone up to get a stable picture. I am confident in my findings of direction, as I had many buildings and the layout of Boston to help me orient myself where I am.

Second Observation

This photo was taken at around 6:41pm on September 21st, around one day before the equinox. This time was chosen because of the Iphone weather app telling me the time of the sunset. Unlike the previous observation, this one was taken around 3 floors above my eastern facing room in the StuVi lounge which has a large window facing west.



To measure where I was I looked at all of the buildings nearby, using the Iphone's .5 camera lens, I could record more landmarks. I noticed that the sun had set behind the right



corner of Rich Hall (the west campus dorm building). Knowing that the sun sets closer to the true west as the days approach the equinox, I was able to line it up parallel to the west on google maps to see where the true west was. Comparing the angle of the sun with the first picture, I was able to make a straighter line and spot the difference between the eastern facing and western facing sun.

Conclusion

Both documentation efforts help to provide a better understanding of the behavior of the sun's rising and setting directions around the time of the equinox. If you compare the directions of the sunrise and sunset from both observations, you can see that if you add up the two vectors of direction they do not form a complete 180 degree line. Where the eastern side is a little more north than the western side.

I think that the first observation might have been less controlled, because the time was not as close to sunrise as my second observation was to sunset. I also believe that to get a better observation I could have recorded the direction of sunrise and sunset on both days which I recorded to compare the total trajectory more than connecting the lines to see the difference between the two observations. I can conclude from this however that the southern direction of the sunrise can be due to the earth's axis tilt which creates seasons on our planet. In the future I believe that I can get the same view of both the rising and setting sun, and also try to get the picture in the same place. Overall this study helped me learn much about the rising and setting of the sun in the context of the equinox.