

Through my past research into exoplanets here at the university, I had used a method called ensemble photometry to view the transits of exoplanets without known reference stars within the field of view. This has somewhat cleaned up my data, but it had to unfortunately be done using an online software that deleted the data after about a month or so. Due to this, I wish to either use MATLAB (already available in the department) or Python to make a code that would be able to do ensemble photometry. Such a code would be tweaked in a way to makes the average of the reference stars weighted, which could potentially make the data even nicer than the online software that was previously used. To analyze said data, however, the pictures would first need to be calibrated using Maxim DL. This would clear up the noise in the data taken by the telescope and make it easier for me to determine whether the code I use to do ensemble photometry is reliable. And given the restriction due to COVID, having the software on my PC through the university would make it easier on my end to do said calibrations at home.