



Siamese Lions

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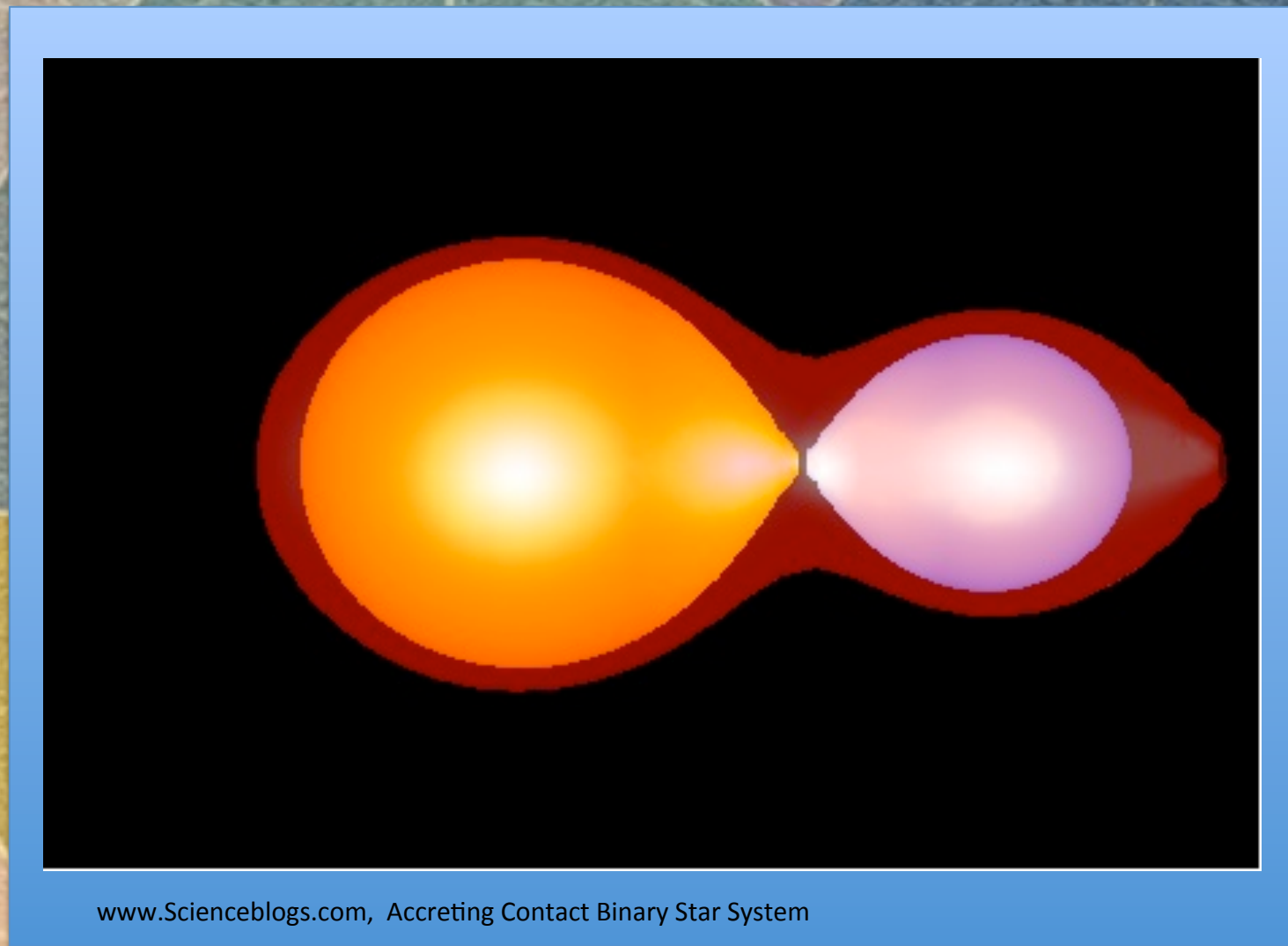
Computer Science

Science, Discovery, and the Universe



INTRODUCTION

For my Capstone Project I was set to observe binary stars; that is a pair of stars that orbit a shared center of mass. Approximately half the stars visible from Earth are believed to be binary star systems. It is believed that most of these systems form during star formation, due to how similar they are in composition, but some do occur due to gravitational captures. I was set to observe the star system EX-Leo, an accreting contact binary star in the constellation Leo.



www.Scienceblogs.com, Accreting Contact Binary Star System

PROCEDURE

The plan was to observe EX-Leo through a telescope and take long exposure images using a CCD Camera. The images would then be processed to graph the stars' brightness over time into a lightcurve. From this we can calculate rotational period, size, and mass.



Image taken by Nate Montague-Smith, picture used with permission.

Equipment

6" Telescope

SBIG ST-10 CCD Camera

Maxim DL

AstroImageJ

IMPORTANCE

Binary stars are useful to astronomers because their orbital periods can be used to easily calculate their masses, size, and maybe even the distance between the stars.

With this data, we can learn more about other stars and the universe as a whole.



Image taken by Nate Montague-Smith & Steven Baskerville with permission

ANALYSIS

Unfortunately, due to weather, no data was able to be gathered for analysis.

CONCLUSION & REFLECTION

While I have enjoyed theoretical astronomy for many years now, doing it in practice was different. Actually using the telescopes and CCD cameras successfully was an accomplishment, but there were many things outside of my control that made the process frustrating. Overall, it was a good experience but I would probably not do it again if given the chance.



Image from www.sinbad.com, Finder Chart of Ex-Leo.

Special thanks to Ms. Warner
at the UMD Observatory