

Project Proposal
VIP at Howard University

HU Radio Telescope

Measuring the Galactic Rotation Curve

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Physics

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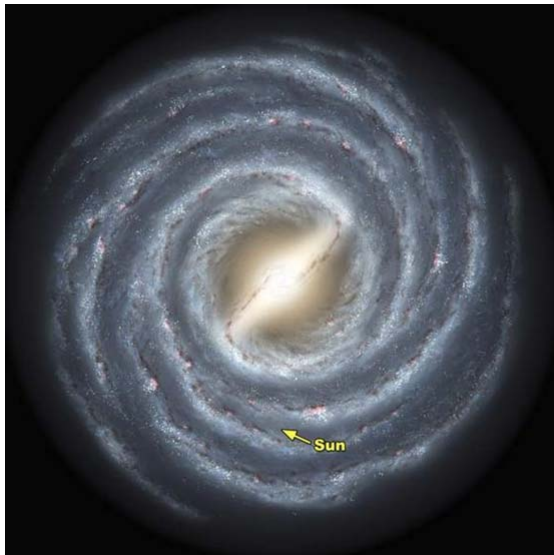
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Context

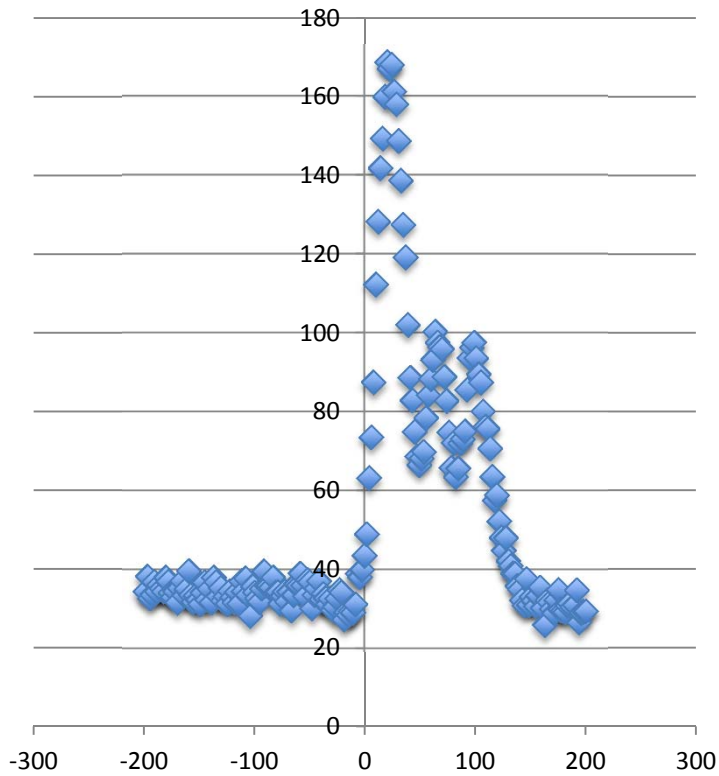
- PHYS 194, PHYS 143 Physics Department advanced lab and observational astronomy lab
- Enhance physics intuition and build basic skills

Motive

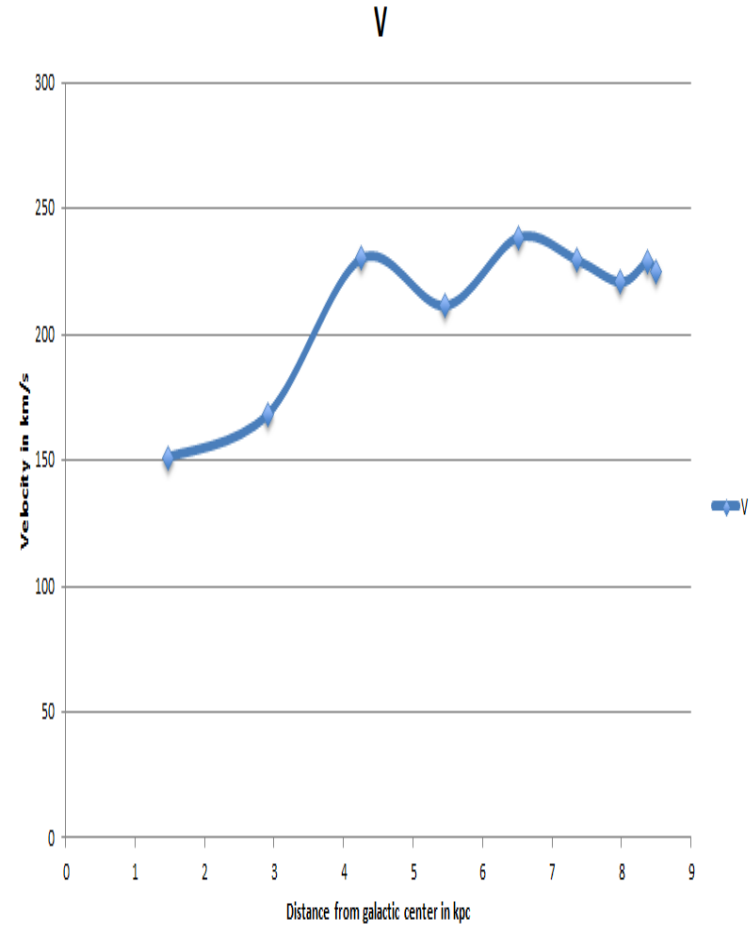
- “Measuring the Galactic Rotation Curve”
- This is the primary evidence we have for dark matter in the universe.
- Think of radar gun – use Doppler shift to figure out speed.
- We do the same thing, but with large clouds of atomic hydrogen through out our galaxy.



Spectral Data and Rotation Curve



◆ Series1



What does the final (physical) product look like ?



Task for the first phase

- Study MIT Haystack Radio telescope.
- Investigation of and learn from the Extensive modification of the Haystack Radio Telescope by University of Michigan at Ann Arbor (which is presently working and running now)
- Search for Parts list
- Purchasing major parts is already underway
- Immediate Need: parts need to be machined!
- Next: Location and Location: where to put it?

Team Formation

- Faculty Advisor: Dr. Marcus Alfred (Physics)
- Graduate Student: Richard Farrell (EE)
- 2 EE/CpE Senior students
- 3 -4 : EGPP students
- N: other recruits