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**Molly White  
Feb. 17, 2010  
LISA VI, Pune, India**



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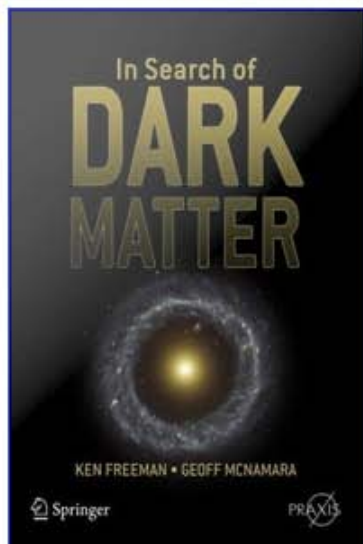
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## In Search of Dark Matter : The Search for Dark Matter in the Universe

by Freeman, Ken; McNamara, Geoff

Book Details

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### Book Details

The dark matter problem is one of the most fundamental and profoundly difficult to solve problems in the history of science. Not knowing what makes up most of the known universe goes to the heart of our understanding of the universe and our place in it. "In Search of Dark Matter" is the story of the emergence of the dark matter problem, from the initial erroneous 'discovery' of dark matter by Jan Oort to contemporary explanations for the nature of dark matter, and its role in the origin and evolution of the universe. Written for the educated non-scientist and scientist alike, it spans a variety of scientific disciplines, from observational astronomy to particle physics. Concepts that the reader will encounter along the way are at the cutting edge of scientific research. However the themes are explained in such a way that no prior understanding of science beyond a high school education is necessary.

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<b>Title:</b>	In Search of Dark Matter : The Search for Dark Matter in the Universe	<b>Print ISBN:</b>	9780387276168
<b>Author(s):</b>	Freeman, Ken; McNamara, Geoff	<b>eISBN:</b>	9780387276182
<b>Publisher:</b>	Springer-Verlag New York Inc	<b>Dewey:</b>	523.1126
<b>Publication Date:</b>	23 Aug, 2006	<b>Pages:</b>	171
<b>Category:</b>	Science, Science: Astronomy	<b>LCCN:</b>	QB791.3; QB791.3.F74 2006
<b>Language:</b>	English	<b>Edition:</b>	1
<b>LCSH:</b>	Dark matter (Astronomy)		

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**In Search of Dark Matter**  
Freeman, Ken  
McNamara, Geoff

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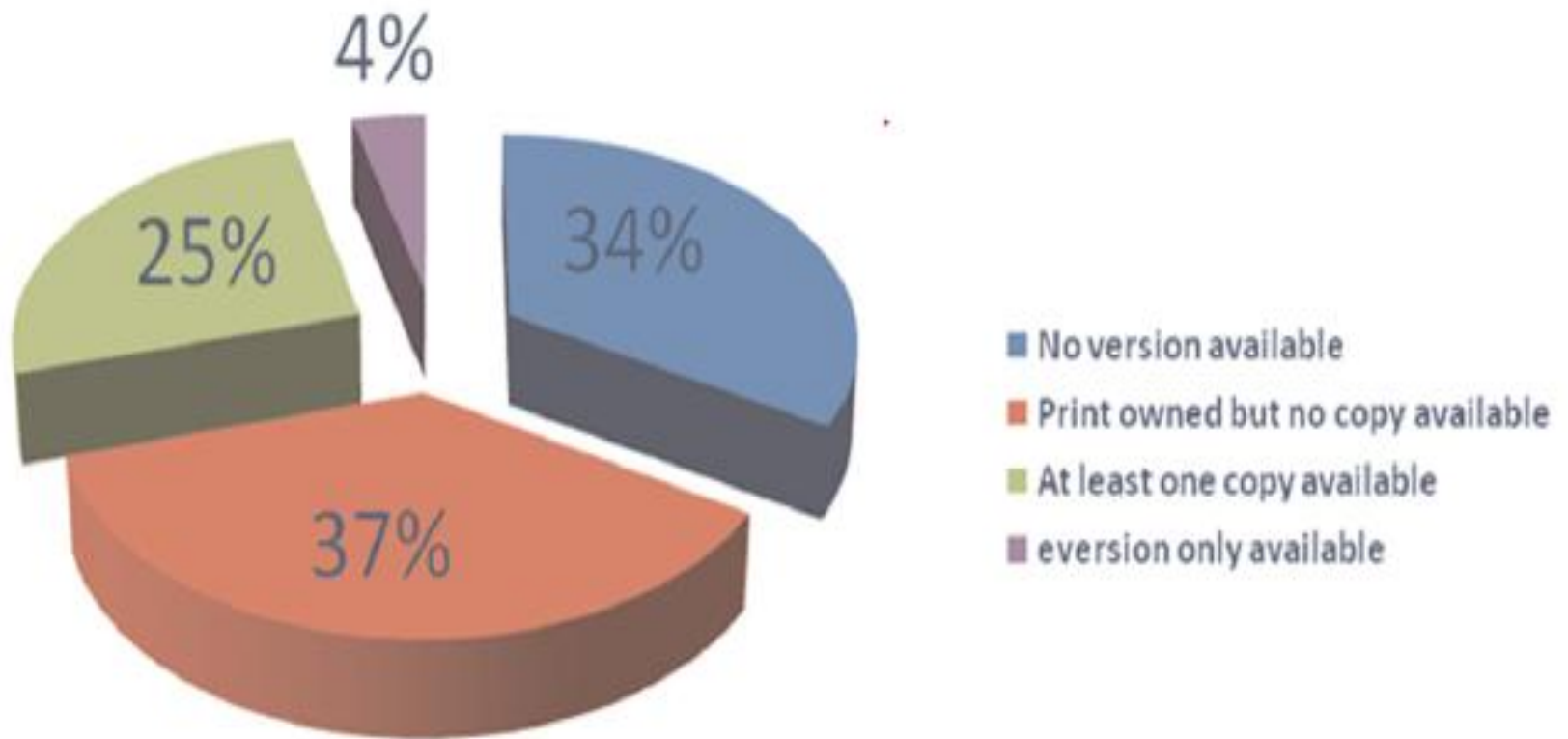
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- ▶ What can the matter be?
- ▶ Exploring exotica: neutrinos
- ▶ Exploring exotica: WIMPs and axions
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### 4 How to weigh galaxies



Figure 1.1. M74 (NGC 628) – a spiral galaxy similar to the Milky Way. These beautiful stellar structures are the result of inward gravitational forces and the random and circular motions of the stars which keep the galaxies ‘inflated’. Unlike elliptical galaxies, they are dominated by circular motion. (Courtesy Todd Boroson/NOAO/AURA/NSF.)

at a snail’s pace no matter how fast you drive. This phenomenon is called perspective, and it is at its best in the sky. Despite the 3,500-km/h motion of the Moon, you would have to watch it for several minutes before seeing an appreciable motion against the background stars. The planets seem not to move at all during the night, taking days, weeks or months to move even a few degrees. To study the distribution of matter out among the stars, it is essential to measure their motions. However, perspective means that even the tiniest movement of a star may take years to measure. Nonetheless, astronomers managed to do it, and



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Macicak, S and Schell, L, Patron-driven, librarian- approved: a pay-per-view model for e-books, *Serials*, 2009, 22 (3), Suppl. 1, S31-S38; doi:10.1629/22S31 .

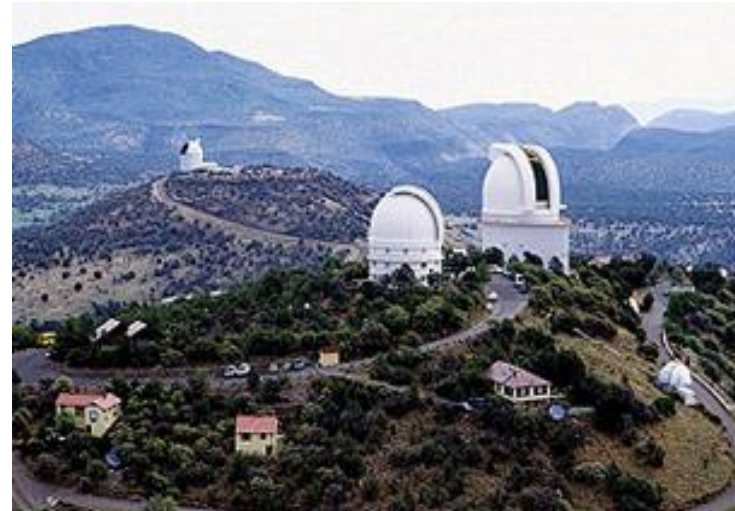
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## Ask the Astronomers



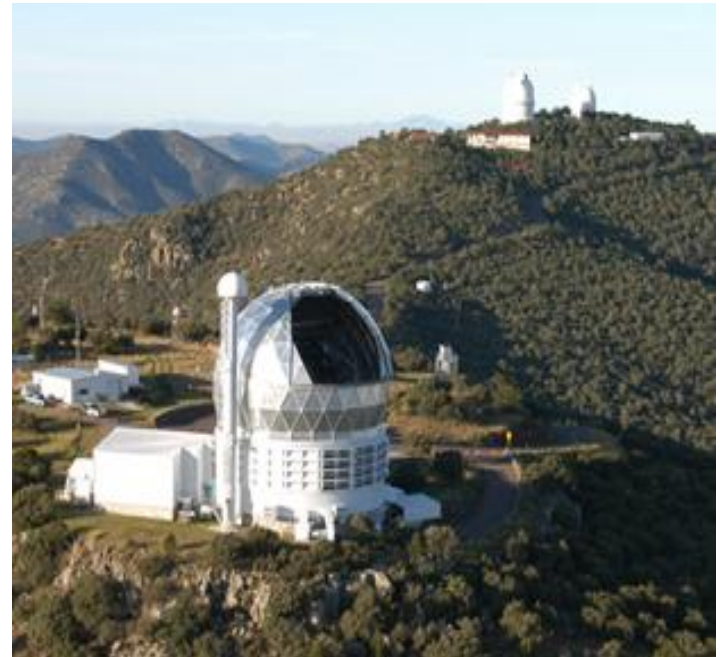
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- 1400 students per semester in astronomy courses, including non-majors
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- **Surveyed 100 astronomers**
    - 14 survey responses**
    - 2 email exchanges**
    - 4 interviews**
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- Long history of problems with cutting, pasting, printing

# Negative Comments cont.

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**Title:** In [Search of Dark Matter](#)

**Authors:** [Freeman, Kenneth C.](#); [McNamara, Geoff](#)

**Publication:** In search of dark matter, by K.C. Freeman and G. McNamara Chichester, UK: Springer, 2006 Springer-Praxis books in popular astronomy. ISBN 0387276165, 2006.

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**Comment:** ISBN: 0387276165

**Bibliographic Code:** [2006isdm.book....F](#)

## Abstract

Astronomy was once a quest for light. For millions of years, humans stared wide-eyed at the night sky trying to piece together the nature of the Universe we live in. But because of the limitations of the naked eye, the vast majority of our ancestors never suspected,

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*Neta A. Bahcall*

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## Messages? Lessons Learned?

Bifurcation, pierced leaf by Eve Andree Laramee



- No clear mandate from the astronomers.
- E-books have not yet reached maturity.
- More book metadata in ADS will enhance discovery.
- Permanence of e vs. print – the age-old question.



## **Next Steps:**

- **Review standing orders. Are we duplicating with e-book contracts?**
- **Reinforce feedback loop from astronomers. Keep checking back. Monitor for change in user behavior.**

Namaste  
FIN

University of Texas Libraries

Feb. 17, 2010

