Yahoo! My Yahoo! Mail More New User? Sign Up Sign In Help

Search: WEB SEARCH

Home U.S. Business World Entertainment Sports Tech Politics Elections Science Health Most Popular

Science Video Weather News Space & Astronomy Animals & Pets Dinosaurs & Fossils Biotech Energy Environment

Search: All News Search Advanced

New View: Universe Suddenly Twice as Bright

SCIENCE VIDEO

Phone thieves target children
BBC

Polar bear on endangered list
CNN

» All news video

Spammer-in-chief
The president looks forward to getting back on e-mail after office.

Bush: Global warming 'is real'

Bush 'would consider' gas tax cut

Bush on natural disasters in China and Myanmar

Bush calls for 'normal-sized' baseball players

Full transcript of exclusive Bush interview

YAHOO! NEWS TOPIC PAGES

NEW! Get in-depth coverage on climate change and

Clara Moskowitz
Staff Writer
SPACE.com
Thu May 15, 1:00 PM ET

The universe is twice as bright as it appears, astronomers now suggest.

ADVERTISEMENT

The light bulb went on when they calculated that dust blocks about the half the light emitted from stars and galaxies.

Astronomers have known about interstellar dust for a while, but they haven't been able to quantify just how much light it blocks. Now a team of researchers has studied a catalogue of galaxies and found that dust shields roughly 50 percent of their light.

"I was shocked by the sheer scale of the effect," said Simon Driver, an astronomer from the University of St. Andrews in Scotland who led the study. "Most people just kind of said, 'We suspect dust is a minor problem.' I spent much of my career working on deep images from Hubble and I've always ignored dust almost entirely."

The result will likely cause many astronomers to revise their calculations of the intrinsic brightness of many celestial objects, Driver said. Until now, many astronomers thought stars and galaxies were really about 10 percent brighter in optical light than they appeared because of dust. If the new findings are true, it turns out that objects in the sky are about twice as bright than they appear.

"This is a strong, clear-cut result," Driver told SPACE.com. "We've really got to take dust seriously and we've got to make large adjustments to our magnitude calculations." (A magnitude scale is used to define brightness of celestial objects.)

The astronomers detailed their findings in the May 10 issue of the Astrophysical Journal Letters.

Interstellar dust isn't exactly the same thing that coats our bookshelves and covers our TV screens. It's made up of lumps of carbon and silicates that form dust grains only a few thousandths of a millimeter long. It hangs out in galaxies, but generally steers clear of the space between them.

To calculate dust's effect, the researchers analyzed data from the Millennium Galaxy

global warming with new topic pages.

ELSEWHERE ON THE WEB

USATODAY.com: Tim Robbins' 'Noise' is somewhat sound

Time.com: How Green Is John McCain?

USATODAY.com: Everybody was 'Kung Fu' smiling in this star-studded cast

ADVERTISEMENT

YAHOO! GREEN

Free is good
How to give and get

Catalogue, a collection of images of 10,000 galaxies compiled by Driver and his team using the Isaac Newton Telescope on La Palma and others.

They counted the number of galaxies in the catalogue that were directly facing us, and compared it to the number that were tilted 90 degrees away from us. Without dust, they reasoned, they should see just about equal numbers of galaxies in each orientation. But with dust, they would likely find fewer edge-on than face-on galaxies. Since dust lies in the disks of spiral galaxies, and not the dense central bulge, when we view galaxies from the side we are looking through thicker layers of dust, so we should see less light. In fact, the researchers counted about 70 percent fewer edge-on galaxies than face-on galaxies.

They used this discrepancy to quantify dust's effect by combing their counts with a model of dust distribution in galaxies developed by Cristina Popescu of the University of Central Lancashire and Richard Tuffs of the Max Plank Institute for Nuclear Physics.

"It's been a revelation to many people in the community, but there are small groups that had a suspicion this was coming," Driver said. "I wouldn't be surprised if there's a refinement of the result, but I think the result is basically here to stay."

The research was funded by the Science and Technology Facilities Council, the Australian Research Council, the Max-Planck Society and a Livesey award from the University of Central Lancashire.

- Life's Little Mysteries: Why Do Stars Twinkle?
- Video: Red Dust Dangers
- Image Gallery: Hubble Photos - When Galaxies Collide

- Original Story: New View: Universe Suddenly Twice as Bright

Visit SPACE.com and explore our huge collection of Space Pictures, Space Videos, Space Image of the Day, Hot Topics, Top 10s, Multimedia, Trivia, Voting and Amazing Images. Follow the latest developments in the search for life in our universe in our SETI: Search for Life section. Join the community, sign up for our free daily email newsletter, listen to our Podcasts, check out our RSS feeds and other Reader Favorites today!

Email Story **IM Story** **Printable View** **Yahoo! Buzz**

RECOMMEND THIS STORY
Recommend It: Average (56 votes)
» Recommended Stories

Science News

- El Nino may have helped Magellan cross the Pacific AP
- Researchers warn of nitrogen hazard to environment AP
- Da Vinci to be honored by small helicopter flight AP
- Robotic suit could usher in super soldier era AP
- Why the China Quake Was So Devastating LiveScience.com

Most Viewed - Science

- Brrr! Mars Colder Than Expected SPACE.com
- Why the China Quake Was So Devastating LiveScience.com
- Astronomers baffled by weird, fast-spinning pulsar Reuters
- Researchers warn of nitrogen hazard to environment AP
- Weather around the U.S.A. AP

Science Video

- Phone thieves target children BBC - Thu May
- Polar bears 'threatened' CNN - Wed May 14, 5:16

perfectly good stuff for free, reducing waste.

ASSIGNMENT EARTH

Planet Profiled
Explore the world's wonders and the battle to save them.

MOST POPULAR

Popular Science
The most popular science news stories and photos.

» All Most Popular

Add headlines to your personalized My Yahoo! page
(About My Yahoo! and RSS)

Science - SPACE.com

Space/Astronomy

» More news feeds

NEWS ALERTS

Get an alert when there are new stories about:

- University of St. Andrews
- Max-Planck Society
- Astrophysical Journal Letters
- Isaac Newton Telescope
- Scotland

Add Selected Alerts

» More alerts

15, 11:34 AM ET

Polar bear on endangered list CNN - Thu May 15, 2:01 AM ET

PM ET

Mount Etna flows back to life BBC - Wed May 14, 2:50 PM ET

Copyright © 2008 SPACE.com.
Copyright © 2007 Yahoo All rights reserved.Copyright/IP Policy |Terms of Service |Help |Feedback
NOTICE: We collect personal information on this site. To learn more about how we use your information, see our» Privacy Policy