John G. Wolbach Library: CfA in the News ~ Week ending 20 June 2010

1**. New astronomy research reported from F. Rahoui and co-authors**, Science Letter, p828, Tuesday, June 22, 2010

2. **Astronomers Observing Birth Of Star**, World News Connection, Saturday, June 19, 2010

3. **Yale University: Astronomers Witness a Star Being Born**, M2 PressWIRE, Friday, June 18, 2010

4. **Astronomers witness birth of a star**, Hindustan Times, Friday, June 18, 2010

5. **PAN-STARRS 1 TELESCOPE BEGINS SCIENCE MISSION**, US Federal News, Thursday, June 17, 2010

6**. Is Human Activity a Substantial Cause of Global Climate Change? New ProCon.org Website Shows Latest Pro and Con Research in Climate Change Debate,** PR Newswire, Tuesday, June 15, 2010

7. **In the Hunt for Planets, Who Owns the Data?,** DENNIS OVERBYE, New York Times (NY), Late Edition - Final ed, p1, Tuesday, June 15, 2010

8. **Energy and What's Ahead**, Reed Miller, Industrial Heating, v78, n6, p12 Tuesday, June 1, 2010

Record - 1

DIALOG(R)
New astronomy research reported from F. Rahoui and co-authors,
Science Letter, p828,
Tuesday, June 22, 2010

TEXT:
According to a study from the United States, "To date, mid-infrared properties of Galactic black hole binaries have barely been investigated in the framework of multi-wavelength campaigns. Yet, studies in this spectral domain are crucial to get complementary information on the presence of dust and/or on the physical processes such as dust heating and thermal bremsstrahlung."

"Here, we report a long-term multi-wavelength study of the microquasar GRS 1915+105. On the one hand, we aimed at understanding the origins of the mid-infrared emission, and on the other hand, at searching for correlation

with the high-energy and/or radio activities. We observed the source at several epochs between 2004 and 2006 with the photometer IRAC and spectrometer IRS, both mounted on the Spitzer Space Telescope. When available, we completed our set of data with quasi-simultaneous RXTE/INTEGRAL high-energy and/or Ryle radio observations from public archives. We then studied themid-infrared environment and activities of GRS 1915+105 through spectral analysis and broadband fitting of its radio to X-ray spectral energy distributions. We detected polycyclic aromatic hydrocarbon molecules in all but one IRS spectra of GRS 1915+105 which unambiguously proves the presence of a dust component, likely photoionized by the high-energy emission. We also argue that this dust is distributed in a disk-like structure heated by the companion star, as observed in some Herbig Ae/Be and isolated cool giant stars. Moreover, we show that some of the soft X-ray emission emanating from the inner regions of the accretion disk is reprocessed and thermalized in the outer part. This leads to a mid-infrared excess that is very likely correlated to the soft X-ray emission," wrote F. Rahoui and colleagues (see also).

The researchers concluded: "We exclude thermal bremsstrahlung as contributing significantly in this spectral domain."

Rahoui and colleagues published the results of their research in Astrophysical Journal (Long-term Multi-wavelength Studies Of Grs 1915+105. I. A High-energy And Mid-infrared Focus With Rxte/integral And Spitzer. Astrophysical Journal, 2010;715(2):1191-1202).

For additional information, contact F. Rahoui, Harvard Smithsonian Center Astrophysics, 60 Garden St., Cambridge, MA 02138, USA.

The publisher of the Astrophysical Journal can be contacted at: IOP Publishing Ltd., Dirac House, Temple Back, Bristol BS1 6BE, England.

Copyright (c) 2010 Science Letter via NewsRx.com

Record - 2

DIALOG(R)
Astronomers Observing Birth of Star,
World News Connection,
Saturday, June 19, 2010

TEXT:
Material in the World News Connection is generally copyrighted by the source cited. Permission for use must be obtained from the copyright

holder. Inquiries regarding use may be directed to NTIS, US Dept. of Commerce.

[Computer selected and disseminated without OSC Editorial

intervention]

Astronomers Observing Birth of Star

TEHRAN (FNA)- Astronomers have glimpsed what could be the youngest known star at the very moment it is being born. Not yet fully developed into a true star, the object is in the earliest stages of star formation and has just begun pulling in matter from a surrounding envelope of gas and dust. The subject has come to the focus of a new study that appears in the current issue of the Astrophysical Journal. The study's authors -- who include astronomers from Yale University, the Harvard-Smithsonian Center for Astrophysics and the Max Planck Institute for Astronomy in Germany -- found the object using the Submillimeter Array in Hawaii and the Spitzer Space Telescope. Known as L1448-IRS2E, it's located in the Perseus star-forming region, about 800 light years away within our Milky Way galaxy.

Stars form out of large, cold, dense regions of gas and dust called molecular clouds, which exist throughout the galaxy. Astronomers think L1448-IRS2E is in between the prestellar phase, when a particularly dense region of a molecular cloud first begins to clump together, and the protostar phase, when gravity has pulled enough material together to form a dense, hot core out of the surrounding envelope.

"It's very difficult to detect objects in this phase of star formation, because they are very short-lived and they emit very little light," said Xuepeng Chen, a postdoctoral associate at Yale and lead author of the paper. The team detected the faint light emitted by the dust surrounding the object.

Most protostars are between one to 10 times as luminous as the Sun, with large dust envelopes that glow at infrared wavelengths. Because L1448-IRS2E is less than one tenth as luminous as the Sun, the team believes the object is too dim to be considered a true protostar. Yet they also discovered that the object is ejecting streams of high-velocity gas from its center, confirming that some sort of preliminary mass has already formed and the object has developed beyond the prestellar phase. This kind of outflow is seen in protostars (as a result of the magnetic field surrounding the forming star), but has not been seen at such an early stage until now.

The team hopes to use the new Herchel space telescope, launched last May, to look for more of these objects caught between the earliest stages of star formation so they can better understand how stars grow and evolve.

"Stars are defined by their mass, but we still don't know at what stage of

the formation process a star acquires most of its mass," said H□or Arce, assistant professor of astronomy at Yale and an author of the paper. "This is one of the big questions driving our work."

Other authors of the paper include Qizhou Zhang and Tyler Bourke of the Harvard-Smithsonian Center for Astrophysics; and Ralf Launhardt, Markus Schmalzl and Thomas Henning of the Max Planck Institute for Astronomy. [Description of Source: Tehran Fars News Agency in English -- hardline pro-Ahmadinezhad news agency; headed as of December 2007 by Hamid Reza Moqaddamfar, who was formerly an IRGC cultural officer; www.fars.ir]

Material in the World News Connection is generally copyrighted by the source cited. Permission for use must be obtained from the copyright holder. Inquiries regarding use may be directed to NTIS, US Dept. of Commerce.

Copyright (c) 2010 Inquiries regarding use may be directed to NTIS, US Dept. of Commerce.

Record - 3

DIALOG(R)
Yale University: Astronomers Witness a Star Being Born,
M2 PressWIRE,
Friday, June 18, 2010

TEXT:
RDATE:17062010

New Haven, Conn. -- Astronomers have glimpsed what could be the youngest known star at the very moment it is being born. Not yet fully developed into a true star, the object is in the earliest stages of star formation and has just begun pulling in matter from a surrounding envelope of gas and dust, according to a new study that appears in the current issue of the Astrophysical Journal.

The study's authors*"who include astronomers from Yale University, the Harvard-Smithsonian Center for Astrophysics and the Max Planck Institute for Astronomy in Germany*"found the object using the Submillimeter Array in Hawaii and the Spitzer Space Telescope. Known as L1448-IRS2E, it's located in the Perseus star-forming region, about 800 light years away within our Milky Way galaxy.

Stars form out of large, cold, dense regions of gas and dust called

molecular clouds, which exist throughout the galaxy. Astronomers think L1448-IRS2E is in between the prestellar phase, when a particularly dense region of a molecular cloud first begins to clump together, and the protostar phase, when gravity has pulled enough material together to form a dense, hot core out of the surrounding envelope.

'It's very difficult to detect objects in this phase of star formation, because they are very short-lived and they emit very little light,' said Xuepeng Chen, a postdoctoral associate at Yale and lead author of the paper. The team detected the faint light emitted by the dust surrounding the object.

Most protostars are between one to 10 times as luminous as the Sun, with large dust envelopes that glow at infrared wavelengths. Because L1448-IRS2E is less than one tenth as luminous as the Sun, the team believes the object is too dim to be considered a true protostar. Yet they also discovered that the object is ejecting streams of high-velocity gas from its center, confirming that some sort of preliminary mass has already formed and the object has developed beyond the prestellar phase. This kind of outflow is seen in protostars (as a result of the magnetic field surrounding the forming star), but has not been seen at such an early stage until now. The team hopes to use the new Herchel space telescope, launched last May, to look for more of these objects caught between the earliest stages of star formation so they can better understand how stars grow and evolve.

'Stars are defined by their mass, but we still don't know at what stage of the formation process a star acquires most of its mass,' said HA(function of) ctor Arce, assistant professor of astronomy at Yale and an author of the paper.

'This is one of the big questions driving our work.'

Other authors of the paper include Qizhou Zhang and Tyler Bourke of the Harvard-Smithsonian Center for Astrophysics; and Ralf Launhardt, Markus Schmalzl and Thomas Henning of the Max Planck Institute for Astronomy.

CONTACT: Suzanne Taylor Muzzin, Yale University Tel: +1 203 432 8555

((M2 Communications disclaims all liability for information provided within M2 PressWIRE. Data supplied by named party/parties. Further information on M2 PressWIRE can be obtained at http://www.presswire.net on the world wide web. Inquiries to info@m2.com)).

Copyright (c) 2010 M2 Communications Ltd.

Record - 4
DIALOG(R)
Astronomers witness birth of a star,
Hindustan Times,
Friday, June 18, 2010

TEXT:
Washington, June 18 -- Astronomers have witnessed the birth of a star, that could be youngest known to us.

Still far from a fully developed star, the object is in the earliest stages of star formation and has just begun pulling in matter from a surrounding envelope of gas and dust, says a new research published in the Astrophysical Journal.

The study's authors - who include astronomers from Yale University, the Harvard-Smithsonian Center for Astrophysics and the Max Planck Institute for Astronomy in Germany - found the object using the Submillimeter Array in Hawaii and the Spitzer Space Telescope.

Known as L1448-IRS2E, it's located in the Perseus star-forming region, about 800 light-years away within our Milky Way galaxy.

Stars form out of large, cold, dense regions of gas and dust called molecular clouds, which exist throughout the galaxy.

Astronomers think L1448-IRS2E is in between the prestellar phase, when a particularly dense region of a molecular cloud first begins to clump together, and the protostar phase, when gravity has pulled enough material together to form a dense, hot core out of the surrounding envelope.

Xuepeng Chen, a postdoctoral associate at Yale and lead author of the paper, said: "It's very difficult to detect objects in this phase of star formation, because they are very short-lived and they emit very little light."

The team detected the faint light emitted by the dust surrounding the object.

Most protostars are between one to 10 times as luminous as the Sun, with large dust envelopes that glow at infrared wavelengths.

Because L1448-IRS2E is less than one tenth as luminous as the Sun, the team believes the object is too dim to be considered a true protostar.
Yet they also discovered that the object is ejecting streams of

high-velocity gas from its center, confirming that some sort of preliminary mass has already formed and the object has developed beyond the prestellar phase.

This kind of outflow is seen in protostars (as a result of the magnetic field surrounding the forming star), but has not been seen at such an early stage until now.

The team hopes to use the new Herschel space telescope, launched lastMay, to look for more of these objects caught between the earliest stages of star formation so they can better understand how stars grow and evolve.

Hector Arce, assistant professor of astronomy at Yale andan author of the paper, said: "Stars are defined by their mass, but we still don't know at what stage of the formation process a star acquires most of its mass.

"This is one of the big questions driving our work." Published by HT Syndication with permission from Asian News International. For more information on news feed please contact Sarabjit Jagirdar at htsyndication@hindustantimes.com

Copyright (c) 2010 Hindustan Times

Record - 5

DIALOG(R)
PAN-STARRS 1 TELESCOPE BEGINS SCIENCE MISSION,
US Federal News,
Thursday, June 17, 2010

TEXT:
HONOLULU, June 16 -- The University of Hawaii issued the following news release:

The world became a slightly safer place on May 13, when the Pan-STARRS 1 (PS1) telescope in Hawaii started surveying the sky for killer asteroids.

This 1.8 meter (60-inch) diameter telescope on Haleakala is designed to automatically search the skies for objects that either move or change their brightness from night to night. It contains the world's largest digital camera, with 1,400 megapixels.

"Although modest in size, this telescope is on the cutting edge of technology," said Dr. Nick Kaiser, astronomer at UH Manoa's Institute for

Astronomy and head of the Pan-STARRS project. "It can image a patch of sky about 40 times the area of the full moon, much larger than any similar-sized telescope on Earth or in space."

Designed and built by astronomers and engineers of the Pan-STARRS project at the University of Hawaii at Manoa, PS1 has now been turned over to the PS1 Science Consortium, a group of ten institutions, including UH Manoa, in the United States, Germany, United Kingdom and Taiwan that are funding the PS1 Science Mission.

The giant digital camera will take over 500 exposures each night and send about four terabytes of data (equivalent to what 1,000 DVDs can hold) to the Maui High Performance Computing Center for analysis. Computers will rapidly compare each exposure with corresponding ones taken either a few minutes or a few days earlier to find objects that have moved or whose brightness has changed.

In the next three years, PS1 is expected to discover about 100,000 asteroids and to determine if any of them are on a collision course with Earth. It will catalog five billion stars and 500 million galaxies.

PS1 will also be used to compile the most comprehensive digital map of the 75 percent of the universe visible from Hawaii.

UH Manoa astronomers will use the data to search for killer asteroids, to find brown dwarfs and distant quasars, to watch supernova explosions in distant galaxies and to test their latest theories concerning dark matter and dark energy.

PS1 is the experimental prototype for the larger PS4 telescope, which will have four times the power of PS1 and is planned for Mauna Kea.

The PS1 surveys have been made possible through contributions of the PS1 Science Consortium: the University of Hawaii at Manoa Institute for Astronomy; the Pan-STARRS Project Office; the Max-Planck Society and its participating institutes, the Max Planck Institute for Astronomy, Heidelberg, Germany and the Max Planck Institute for Extraterrestrial Physics, Garching, Germany; the Johns Hopkins University; the University of Durham; the University of Edinburgh; the Queen's University Belfast; the Harvard-Smithsonian Center for Astrophysics; the Las Cumbres Observatory Global Telescope Network, Inc.; and the National Central University of Taiwan. Funding for Pan-STARRS (short for Panoramic Survey Telescope & Rapid Response System) has been provided by the U.S. Air Force.

For more information about UH Manoa's role in the PS1 Science Mission, visit: http://www.ifa.hawaii.edu/info/front_page_news/PS1_Science_at_IfA/.

For more information, visit: http://pan-starrs.ifa.hawaii.edu/public/ For more information about USfednews please contact: Sarabjit Jagirdar, US Fed News, email:- htsyndication@hindustantimes.com

Copyright (c) 2010 US Fed News (HT Syndication)

Record - 6

DIALOG(R)

Is Human Activity a Substantial Cause of Global Climate Change? New ProCon.org Website Shows Latest Pro and Con Research in Climate Change Debate,

PR Newswire,
Tuesday, June 15, 2010

TEXT:
SANTA MONICA, Calif., June 15 /PRNewswire-USNewswire/ -- ProCon.org's 34th and newest website, , explores the debate over whether human actions or natural events are primarily responsible for global climate changes. The website helps to stimulate critical thinking on global climate change by presenting the best pros, cons, and facts so people can formulate their own informed perspectives on this complex and important issue.

Natural occurrences, such as changes in the sun's radiation and ocean current shifts, as well as human activities, including burning fossil fuels and deforestation, are reportedly contributing to climate change. Over the 20th century global temperatures have risen between 1 degree F and 1.4 degrees F. This rise has taken place concurrently with a rise in atmospheric levels of greenhouse gases, loss of sea ice, glacier retreat, sea level rise, more intense heat waves, stronger hurricanes, and more droughts.

Several human activities release greenhouse gases such as carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (NO_2), into the atmosphere. As of Apr. 2010, CO_2 levels were 389 parts per million (ppm) - reportedly higher than at any time in the last 650,000 years when levels fluctuated between 180 and 300 ppm.

Although there was a period of cooling from 1940 to 1970, and uncertainty exists in computer climate models, many researchers think the earth will continue to warm by 3 - 10 degrees F over the 21st century.

Predictions about how climate changes will affect civilization range from

an Oct. 2003 Department of Defense report detailing catastrophic weather events and a "significant drop in the human carrying capacity of the Earth's environment," to a Fall 2007 Oregon Institute of Science and Health report detailing "an increasingly lush environment of plants and animals."

Those who believe humans are causing substantial climate change, including the US National Academies of Science, the National Aeronautics and Space Administration (NASA), and the National Oceanic and Atmospheric Administration (NOAA), state that greenhouse gas levels rise mainly from human activities. They argue these increases are amplified by natural feedback loops, leading to significant global warming and climate change that will detrimentally effect human civilization, causing flooding, water shortages, hotter summers and colder winters, and decreased crop harvests.

Those who believe humans are not substantially contributing to climate change, including the Heartland Institute, the Heritage Foundation, and the American Association of Petroleum Geologists, argue that the amount of human-generated greenhouse gas increases are too small to substantially change the climate. They state that the earth's forests and oceans are capable of absorbing these small increases, and that 20th century warming has been the result of natural processes including fluctuations in the sun's heat and ocean currents.

Did You Know?

* As of 2010, the US had 4.5% of world's population but was responsible for about 28% of all global greenhouse gas emissions.

* From 1998-2009, the US government appropriated $99 billion for work related to climate change. $35.7 billion (36%) of that total came in 2009 as part of the American Recovery and Reinvestment Act of 2009.

* A 2003 study by researchers at the Harvard-Smithsonian Center for Astrophysics showed temperatures from 1000-1100 AD (before fossil fuel use) that are comparable to those from 1900-1990.

For more information about Climate Change ProCon.org, visit

About Us

ProCon.org (online at) is a 501(c)3 nonprofit public charity whose mission is promoting critical thinking, education, and informed citizenship.

Information is presented on 34 different ProCon.org issue websites in subjects ranging from health care, medical marijuana, and alternative energy to the death penalty, illegal immigration, and euthanasia.

ProCon.org websites are free of charge and require no registration. The websites have been referenced by over 220 media entities, cited 26 times by the governments of seven countries (including eight US states and six US federal agencies), and used in over 1,260 schools in all 50 US states and 31 countries.

Contact: Kamy Akhavan, Managing Editor

Tel: 310-587-1407
Facebook:

Twitter:

SOURCE ProCon.org

CONTACT: Kamy Akhavan, Managing Editor, kamy@procon.org, +1-310-587-1407

Copyright (c) 2010 PR Newswire

Record - 7

DIALOG(R)
In the Hunt for Planets, Who Owns the Data?,
DENNIS OVERBYE,
New York Times (NY), Late Edition - Final ed, p1,
Tuesday, June 15, 2010

TEXT:
We are about to find out just how generous nature really is.

On Tuesday, astronomers operating NASA's Kepler spacecraft will release a list of about 350 stars newly suspected of harboring planets, including five systems with multiple candidate planets. That data could dramatically swell the inventory of alien worlds, which now stands at 461, none of them habitable by the likes of us.

Astronomers everywhere, who have been waiting since Kepler's launch in March 2009 to get their hands on this data, will be rushing to telescopes to examine these stars in the hopes of advancing the grand quest of finding Earthlike planets capable of harboring life out there.
But a lot of attention has been paid in astronomical circles over the past few months to what the Kepler team will not be saying. By agreement with NASA, the team is holding back data on its 400 brightest and best planet

candidates, which the astronomers intend to observe themselves over abusy summer.

NASA's policy requires astronomers to release their data from instruments like the Hubble Space Telescope in a year, but the Kepler astronomers say launch delays and other problems robbed them of the observing time they needed to check out their planet candidates, which are only visible from the ground from April until September. An extension of the deadline is needed, they say, to guard against a flood of bogus claims -- "false positives" -- by other astronomers misinterpreting their data.

"If I sent you 0's and 1's, it would be useless," said William Borucki, Kepler's leader, from the Ames Research Laboratory at Moffett Field in California. The public wants answers to the age-old question of whether the Earth is unique, he said.

"If we say, 'Yes, they are small planets,' " he went on, "you can be sure they are."

The decision to hold back some data, reported on Nature.com, has divided astronomers. Some say say they do not begrudge the Kepler scientists -- who have in some cases devoted their careers to the project -- a few more months with their data.

Paul Kalas of the University of California, Berkeley, who used Hubble to take one of the first images of an exoplanet in 2008, said, "The stakes aren't that high compared to human subject experiments, where a six-month delay has real consequences when therapies might become available for diseases."

But the sequestering of the data, even temporarily, has irritated other astronomers, who believe that it is antithetical to the ideal of scientific openness.

"Kepler was constructed and launched with a comparatively large sum of money for a project that is run by a single team," said Ben Oppenheimer, an astronomer at the American Museum of Natural History in New York, in an e-mail message. "At this point, I have to say I do think they are being far too restrictive."

B. Scott Gaudi, an astronomer and planet hunter at Ohio State University, said there were more planet candidates than the Kepler team members could check by themselves. "They need help," he said. "If they were more open they would be able to get more science out."
But then he added: "Who am I to say this? I didn't put 10 years of my life into this."

Nobody denies that the stakes, both personal and institutional, are huge.

"The first astronomer who can prove they found an Earthlike planet around an Earthlike star will win many kudos and prizes," said John Huchra of the Harvard-Smithsonian Center for Astrophysics, who led a NASA advisory committee that approved the deal. "It's glory for NASA," he added. "NASA would like to have one of its missions find an Earthlike planet."

The fate of data -- who owns it and who gets to see it, and when -- has become one of the more contentious issues in science, scientists say.

In the past, scientific data consisted of carefully inked notations in research notebooks, bound, with numbered pages, accumulating on a bookshelf in the office or lab, or photographic plates in yellowing envelopes sitting in a filing cabinet. And it was proprietary, meaning it was yours forever to publish or mull endlessly as you desired.

Today, it often consists of billions or trillions of 1's and 0's reposing in vast digital archives, whose capacity is measured in terabytes or petabytes, buttressed by the giant computer programs that process it and the reams of ancillary information, dubbed metadata, that give it context. In the era of the Web, all this information can be sent around the globe at the click of a mouse, retrieved and manipulated by anyone who wants to use it to better understand the nature of dark matter, argue about the safety or desirability of nuclear power, or decide how much salt to put in her food.

"Science is more and more living in a glass house," said Robbert Dijkgraaf, a physicist at the University of Amsterdam and co-chairman of the InterAcademy Council, a multinational organization of science academies that is reviewing the work of the Intergovernmental Panel on Climate Change at the request of the United Nations.

Phillip Sharp, a biologist at the Massachusetts Institute of Technology, led a National Academy of Sciences study last year that said rules for sharing data should be built into projects. In an interview, he said: "The time has past when a bunch of elite true-meaning experts could go into the next room and make conclusions. They have to be transparent. That's a change in the culture."

The result has been a shift in the balance between the duty of a scientist to wring every last drop of truth and credibility out of the data he or she might have spent years gathering and the rights of the rest of us to know what our tax dollars have discovered.

"Proprietary" has become a four-letter word, said Michael Turner, a cosmologist at the University of Chicago who was part of the panel on research data. He said he worried that the pendulum had swung too far toward the Internet ideal of free information.

Secrets have been part of modern science since its beginning. Galileo reported his discovery of the rings of Saturn in an anagram that he wouldn't decode until he was sure that he wasn't seeing things. In the early 1960s, when radio astronomers discovered the powerful radio sources known now as quasars, they jealously guarded their coordinates, giving them to only a few trusted astronomers to investigate.

The members of a scientific collaboration typically agree not to talk about their results before they have been officially released in a paper or a news conference, for example, upon pain of being kicked out. The Kepler team took this a step farther by signing formal nondisclosure agreements.

But then, few areas of physical science have excited the public imagination in recent years as the search for planets around other stars, dubbed exoplanets. Most of them are giants like Jupiter in orbits broilingly close to their stars, but that is not surprising, since most of them were found by looking at stars that wobble under the influence of their planets; the wobble from big planets up close is much easier to detect than that of an Earth at a more temperate distance.
Kepler employs a different approach, which Mr. Borucki has championed ever since 1984. It stares at a patch of sky in the constellation Cygnus, constantly measuring the brightness of 156,000 different stars looking for the small blips that would signal a planet's passing in front of its star.

"In a sense, it's the most boring mission ever flown: doing the same thing every six seconds," Mr. Borucki said. The grand scientific goal of the project, a kind of cosmic census planned to go on until 2013, is to discover Earthlike planets in Earthlike places -- that is to say, in the not-too-cold, not-too-hot Goldilocks zones near a star where liquid water can exist.

Mr. Borucki said the Kepler team started out with 12,000 suspicious dips. They laboriously whittled down those to 956 planet candidates, then quickly dismissed 204 as false positives. That leaves about 750 real candidates, some with supposed orbits of less than a day. Only about half of them, he suspects, will turn out to be real planets. The rest will be double stars, triple stars, starspots and other impostors.

"We have dozens of ways of recognizing when it isn't a planet," said Mr. Borucki.

Realizing earlier this year that sorting them out would take more time than they had before the June 15 deadline, the Kepler team asked NASA for an extension. Jon Morse, director of astrophysics at NASA headquarters, referred the Kepler question to the astrophysics subcommittee of the NASA Advisory Council, a group of 13 astronomers who serve as a go-between between the space agency and professional astronomers.

On April 12, the Kepler team presented the committee with four options. The most radical, and Mr. Borucki's favorite, was to hold back the data on 500 candidates until the end of the mission or until the planets had been verified. At the other end of the spectrum was an option to release everything on June 15, as originally planned.

Dr. Huchra of Harvard, who led the discussion, said, "We all felt the sooner the data hit the streets the better," and in the end there were no votes for holding back candidate data until the end of the mission. "If we had done that everybody would have been hung out to dry," he said.

The group settled on a compromise in which Kepler will be able to protect 400 planet candidates until Feb. 1 -- an extra eight months -- and an additional 100 from a second set of candidates in another data release in 2011. The extra time will in effect give the Kepler astronomers back the summer observing season they lost last year. The compromise, Dr. Morse said, was "in the spirit of the regular release policy."

Meanwhile, the treasure hunt for the end to cosmic loneliness continues."The public wants to know whether there is life on other planets," Mr. Borucki said, noting that it could take decades. The effort to get an answer, he said, reminds him of the building of the great cathedrals in Europe, in which each generation of workers had to tell themselves that "someday it will be built."

"In a sense, we, too, are doing these things," he said.

PHOTO: ONCE-OVER: Inspecting a mirror on the Kepler spacecraft. It has been searching the constellation Cygnus for signs of alien worlds since 2009. (PHOTOGRAPH BY BALL AEROSPACE) (D3)

Copyright (c) 2010 The New York Times Company

Record - 8

DIALOG(R)
Energy and What's Ahead,

Reed Miller,
Industrial Heating, v78, n6, p12,
Tuesday, June 1, 2010

TEXT:
By the time you read this, the plans for energy/emissions policies may be better understood. As I write, however, it is anyone's guess. We will shed some light on the subject by reflecting our thoughts and those of other industry experts. Please pay close attention to this issue in the coming months because decisions made in Washington may severely impact our ability to do business as usual.

Washington's involvement may come in the form of legislation, regulation or both. At the time of publication, the Senate bill is in jeopardy because of the pullout of Lindsay Graham and because of the impact of the oil spill in the Gulf. The bill is the Senate's way of responding to President Obama's post-Copenhagen pledge to cut greenhouse gases (GHG) "in the range of" 17% below 2005 levels by 2020 and 80% by 2050. If the Congress can't get this done, the EPA seems poised to impose immediate regulations, based on a faulty interpretation of the Clean Air Act of 1970.

It's stunning to me that this effort continues, seemingly unaffected by the "Climategate" facts that have been revealed in the past few months. For those of you who just awoke from a long winter's nap, Climategate involves the revelation that virtually all of the GW data generated over the past few decades is suspect due to fraud and falsification. Some of this has been deliberate, and some of it has been a willingness to suspend disbelief. Let me provide some examples:

* From the 1960s-1980s, the number of stations used to calculate global surface temperatures was approximately 6,000. By 1990, this dropped to 1,500. Most of the lost stations were in the colder regions, with Russia reporting that the East Anglia Climate Research Unit (CRU) was ignoring data being reported by the coldest regions.

* In spite of all of the hype, polar bears today outnumber the total from 1950.

* Reports such as the 2003 research by the Harvard-Smithsonian Center for Astrophysics are unreported or ignored. Among its many conclusions, it said, "The 20th century is probably not the warmest nor a uniquely extreme climatic period of the last millennia."

* The pre-Climategate report where 2,500 scientists agree that the GW problem is real is touted, while the petition signed last year by more than 31,000 scientists - 9,021 with Ph.D.s - rejecting the claims of

human-caused GW is ignored.

* At Copenhagen, Al Gore continued the lie when he claimed that a researcher said that there was a 75% chance that the polar ice caps would melt entirely (during the summers) in the next 5-7 years. The researcher denied ever making such a claim.

Why do they do this? I believe the root cause is influence, or power. Stanford professor and activist Stephen H. Schneider, a key person in the environmentalist movement, stated the following in 1989: "We have to make up scary scenarios, make simplified dramatic statements and make little mention of any doubts we may have." And former Colo. Senator Tim Wirth, now president of the U.N. Foundation, said, "We've got to ride the GW issue. Even if the theory of GW is wrong, we'll be doing the right thing, in terms of economic policy and environmental policy."

While so much more can be said about the abuse of the facts - and the media is certainly complicit - space won't allow us to continue. The key is what we can do to counter this blatant ignoring of the facts to pursue an agenda, at all costs. Several industry associations are leading the way. Here are just a few examples:

* On February 16, 2010, the National Association of Manufacturers (NAM) fi led a petition in federal appeals court challenging the EPA's decision to regulate GHG emissions from stationary sources through the Clean Air Act.

* The American Iron and Steel Institute (AISI) has described the EPA plan as "tantamount to immediate regulation, in effect, shutting down plans for the very investment in plants and equipment needed to jumpstart America's fragile economic recovery." AISI is calling for Congress - not the EPA - to decide the fate of emissions standards in the U.S.

* The North American Die Casting Association (NADCA) has joined a group of 20 industry associations and chambers of commerce who, on March 18, 2010, fi led a motion to intervene in support of NAM's position.

* The Industrial Heating Equipment Association (IHEA) met with the DOE in Washington on April 16 to raise awareness of IHEA and foster future collaboration on a wide range of issues affecting our industry.

Let's lend our support to organizations standing their ground against government intervention that fl ies in the face of reason and common sense.

SIDEBAR

To read some thoughts on carbon taxes, use this Tag to view the June 2009

editorial or enter www.industrialheating.com/ed610

Get the free app for your phone at http://gettag.mobi

AUTHOR_AFFILIATION

Reed Miller, Associate Publisher/Editor | 412-306-4360 |
reed@industrialheating.com

Copyright (c) 2010 BNP Media