

Scientists Now Know: We're Not From Here!

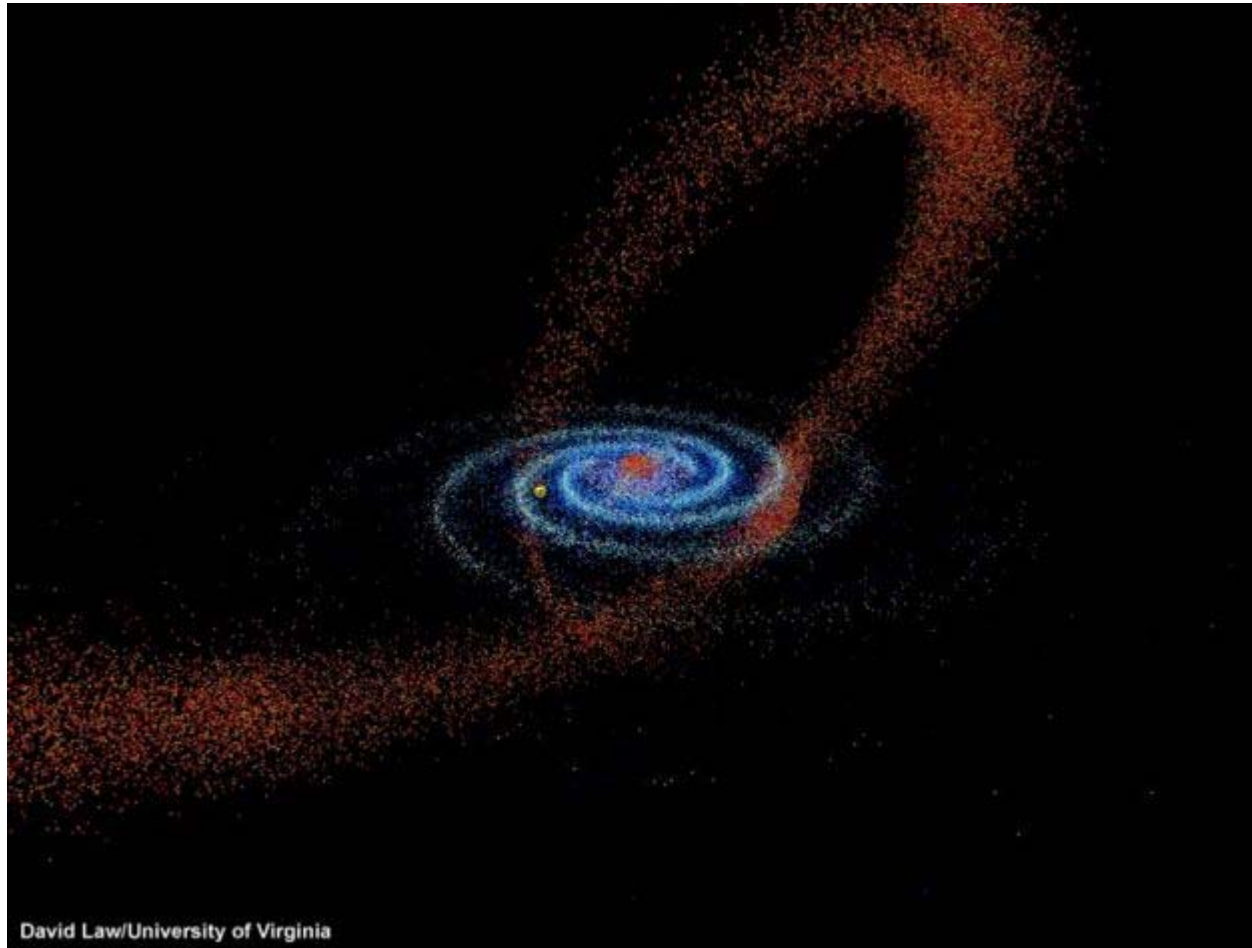
Summary & comments by Dan Eden for Viewzone

Imagine the shock of growing up in a loving family with people you call "Mum" and "Dad" and then, suddenly, learning that you are actually adopted!

This same sense of shock came as scientists announced that the Sun, the Moon, our planet and its siblings, were not born into the familiar band of stars known as the Milky Way galaxy, but we actually belong to a strange formation with the unfamiliar name of the **Sagittarius Dwarf** galaxy!

How can this be?

Using volumes of data from the Two-Micron All Sky Survey (2MASS), a major project to survey the sky in infrared light led by the University of Massachusetts, the astronomers are answering questions that have baffled scientists for decades and proving that our own Milky Way is consuming one of its neighbors in a dramatic display of ongoing galactic cannibalism. The study published in the *Astrophysical Journal*, is the first to map the full extent of the Sagittarius galaxy and show in visually vivid detail how its debris wraps around and passes through our Milky Way. Sagittarius is 10,000 times smaller in mass than the Milky Way, so it is getting stretched out, torn apart and gobbled up by the bigger Milky Way.



A new infra red digital survey of the entire sky was made in 2003. Teams from the universities of Virginia and Massachusetts used a supercomputer to sort through half a billion stars to create a -- NEW STAR MAP showing our Solar System (yellow circle) to be at the exact nexus crossroads where two galaxies are actually joining.

"It's clear who's the bully in the interaction," said Steven Majewski, U.Va. professor of astronomy and lead author on the paper describing the results.

"If people had infrared-sensitive eyes, the entrails of Sagittarius would be a prominent fixture sweeping across our sky," Majewski said. "But at human, visual wavelengths, they become buried among countless intervening stars and obscuring dust. The great expanse of the Sagittarius system has been hidden from view."

Not any more. By using infrared maps, the astronomers filtered away millions of foreground stars to focus on a type of star called an M giant. These large, infrared-bright stars are populous in the Sagittarius galaxy but uncommon in the outer Milky Way. The 2MASS infrared map of M giant stars analyzed by Majewski and collaborators is the first to give a complete view of the Milky Way galaxy's meal of Sagittarius stars, now wrapping like a spaghetti noodle around the Milky Way. Prior to this work, astronomers had detected only a few scattered pieces of the disrupted Sagittarius dwarf. Even the existence of Sagittarius was unknown until the heart of this nearest satellite galaxy of the Milky Way was discovered by a British team of astronomers in 1994.

Here's an [animation](#) of the "marriage".

The fact that the Milky Way is seen in the sky at an angle has always puzzled astronomers. If we originated from the Milky Way, we ought to be oriented to the galaxy's ecliptic, with the planets aligned around our Sun in much the same angle as our Sun aligns with the Milky Way. Instead, as first suggested by researcher [Matthew Perkins Erwin](#), the odd angle suggests that our Sun is influenced by some other system. Together with data from the Two-Micron All Sky Survey we now know what it is. We actually belong to the Sagittarius Dwarf galaxy.

"We sifted several thousand interesting stars from a catalog of half a billion," said co-author Michael Skrutskie, U.Va. professor of astronomy and principal investigator for the 2MASS project. "By tuning our maps of the sky to the 'right' kind of star, the Sagittarius system jumped into view."



We are from another galaxy in the process of joining with the Milky Way. The Milky Way is actually not our parent galaxy. The mystery of why the Milky Way has always been sideways in the night sky has never been answered -- until now.

"This first full-sky map of Sagittarius shows its extensive interaction with the Milky Way," Majewski said. "Both stars and star clusters now in the outer parts of the Milky Way have been 'stolen' from Sagittarius as the gravitational forces of the Milky Way nibbled away at its dwarf companion. This one vivid example shows that the Milky Way grows by eating its smaller neighbors."

The study's map of M giants depicts 2 billion years of Sagittarius stripping by the Milky Way, and suggests that Sagittarius has reached a critical phase in what had been a slow dance of

death.

"After slow, continuous gnawing by the Milky Way, Sagittarius has been whittled down to the point that it cannot hold itself together much longer," said 2MASS Science Team member and study co-author Martin Weinberg of the University of Massachusetts. "We are seeing Sagittarius at the very end of its life as an intact system."

Does this mean we are at a unique moment in the life of our galaxy? Yes and no.

"Whenever possible, astronomers appeal to the principle that we are not at a special time or place in the universe," Majewski said. "Because over the 14 billion-year history of the Milky Way it is unlikely that we would just happen to catch a brief event like the death of Sagittarius, we infer that such events must be common in the life of big spiral galaxies like our own. The Milky Way probably dined on a number of dwarf galaxy snacks in the past."

On the other hand, Majewski and his colleagues have been surprised by the Earth's proximity to a portion of the Sagittarius debris.

"For only a few percent of its 240 million-year orbit around the Milky Way galaxy does our Solar System pass through the path of Sagittarius debris," Majewski said. "Remarkably, stars from Sagittarius are now raining down onto our present position in the Milky Way. Stars from an alien galaxy are relatively near us. We have to re-think our assumptions about the Milky Way galaxy to account for this contamination."

The new findings will help astronomers measure the total mass of the Milky Way and Sagittarius galaxies, and probe the quantity and distribution of the invisible dark matter in these systems.

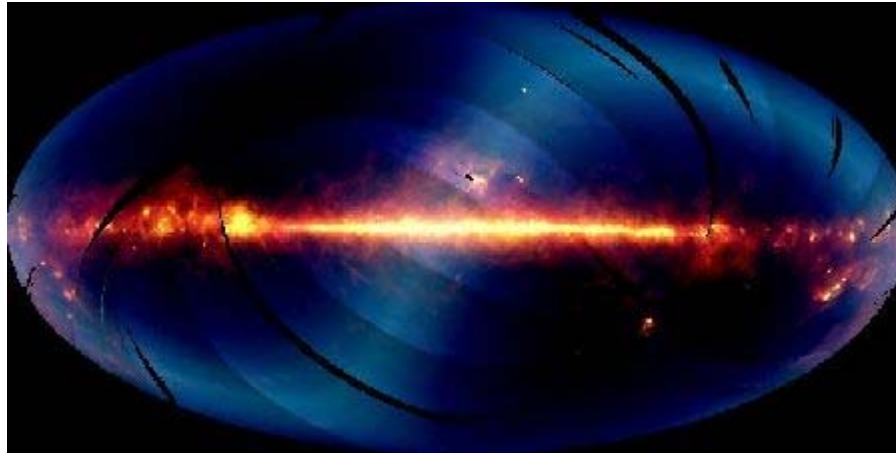
"The shape of the Sagittarius debris trail shows us that the Milky Way's unseen dark matter is in a spherical distribution, a result that is quite unexpected," Weinberg said.

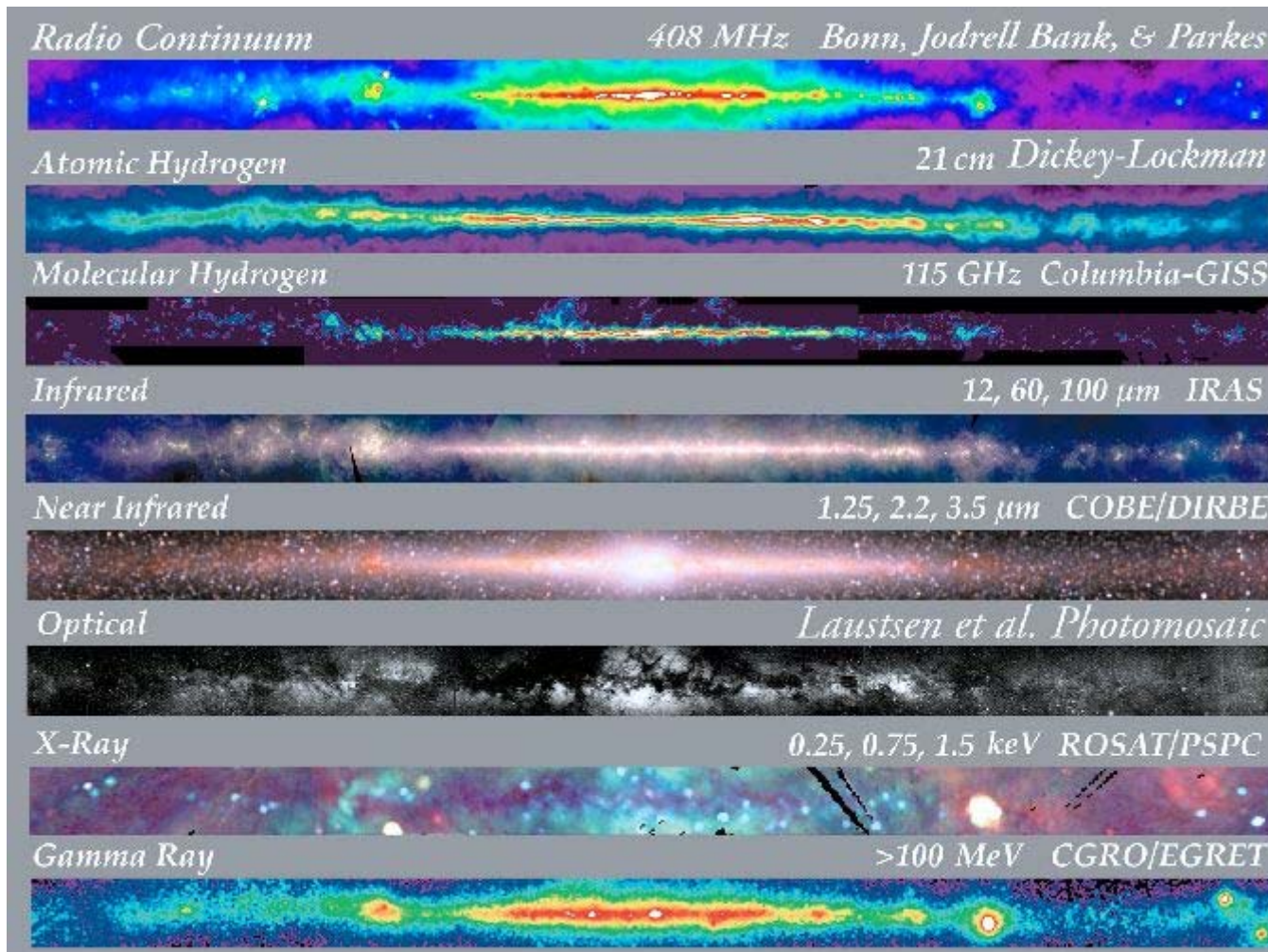
"The observations provide new insights into the nature of the mysterious dark matter," said Princeton's Spergel. "Either our galaxy is unusual or the dark matter has richer properties than postulated by conventional models."

Implications in Global Warming?

It has been postulated that this is the real reason for both global warming since higher energy levels of the Milky Way are almost certain to cause our Sun to burn hotter and emit higher energies. Indeed, temperatures have been seen to rise on virtually all the planets in our system. This seems quite apart from any local phenomenon like greenhouse gases etc.

This grand turning is possibly the root cause for the discontinuation of the Mayan calendar (the most accurate on the planet) because the 'read-point' of the Pleiades star cluster, which many believe the calendar was based upon, can no longer be a constant as we begin to steer away from the earlier predictable movements.





Other changes happening in our system

The "marriage" of our birth galaxy with our new adopted Milky Way galaxy is causing energy shifts that are obvious just about everywhere. Here are some changes being watched by scientists:

- * A growth of dark spots on Pluto.
- * Reporting of auroras on Saturn.
- * Reporting of Uranus and Neptune polar shifts (They are magnetically conjugate planets),

and the abrupt large-scale growth of Uranus' magnetosphere intensity.

* A change in light intensity and light spot dynamics on Neptune.

* The doubling of the magnetic field intensity on Jupiter (based upon 1992 data), and a series of new states and processes observed on this planet as an aftermath of a series of explosions in July 1994 [caused by "Comet" SL-9]. That is, a relaxation of a plasmoid train which excited the Jovian magnetosphere, thus inducing excessive plasma generation and its release in the same manner as Solar coronal holes inducing an appearance of radiation belt brightening in decimeter band (13.2 and 36 cm), and the appearance of large auroral anomalies and a change of the Jupiter - Io system of currents.

Update Note: A stream of ionized hydrogen, oxygen, nitrogen, etc. is being directed to Jupiter from the volcanic areas of Io through a one million amperes flux tube. It is affecting the character of Jupiter's magnetic process and intensifying its plasma genesis. [Z.I.Vselennaya "Earth and Universe" N3, 1997 plo-9 by NASA data]

* A series of Martian atmosphere transformations increasing its biosphere quality. In particular, a cloudy growth in the equator area and an unusual growth of ozone concentration.

Update Note: Mars Surveyor Satellite encountered an atmospheric density double that projected by NASA upon entering a Mars orbit. This greater density bent one of the solar array arms beyond the full and open stop. This combination of events has delayed the beginning of the scheduled photo mission for one year.

* A first stage atmosphere generation on the Moon, where a growing sodium atmosphere is detected that reaches 9,000 km in height.

* Significant physical, chemical and optical changes observed on Venus; an inversion of dark and light spots detected for the first time, and a sharp decrease of sulfur-containing gases in its atmosphere.

* A Change in the Quality of Interplanetary Space Towards an Increase in Its Interplanetary and Solar-Planetary Transmitting Properties.

When speaking of new energetic and material qualities of interplanetary space, we must first point out the increase of the interplanetary domains energetic charge, and level of material saturation. This change of the typical mean state of interplanetary space has two main causes:

* The supply/inflow of matter from interstellar space. (Radiation material, ionized elements, and combinations.)

* The after effects of Solar Cycle 22 activity, especially as a result of fast coronal mass ejection's [CME's] of magnetized solar plasmas.

What does it all mean?

We of the overarching Sagittarius Dwarf Elliptical Galaxy have finally come down next to, and even with the massively powerful spiral armed equatorial plane of the Milky Way Galaxy.

In our movement through space, our Earth has now fully begun to respond to the more powerful galactic energies and electro-gravitational bias of the massive Milky Way. We have reached the higher energy equatorial disc region of the massive spiral arm. We have now been "adopted" by a new system, a stronger and more powerful system, and we can expect changes on almost every level of energy.

Whatever these changes are, they are all part of the natural birth, death, rebirth and transformation of the cosmos. As our knowledge of the universe grows, we cannot but understand how much we do not understand. Such is life.

[For further reading we suggest you go to [Matthew Perkins Erwin's blog](#); abc.net.au and www.astro.virginia.edu which was the basis of this summary.]

Readers may also be interested to read about [Doomsday: The Mayan Prophecy](#).

[Viewzone](#) || [Comments?](#) || [Body Mind Spirit](#)