

SPACE DAILY

your portal to space

[Recommend](#)[Send](#)

6 people recommend this. Be the first of your friends.

[Tweet](#) 4[Get Our Free Newsletter](#)
your email address[Buy Advertising](#)

EXTRA SOLAR

Exoplanet hosting stars give further insights on planet formation

by Staff Writers
Lisbon, Portugal (SPX) Aug 20, 2012

An international team, led by EXOEarths researchers (Centro de Astrofísica da Universidade do Porto - CAUP), proposes that metals like Magnesium might have an important role in the formation of low mass planets.

The team, lead by CAUP researcher Vardan Zh. Adibekyan, analyzed high resolution spectra of 1111 sun-like stars, obtained by the HARPS spectrograph (ESO). Of these stars, 109 are known to harbor high mass (Jupiter-like) planets, and 26 have Neptune-like planetary companions.

The team focused especially on studying the abundance of Alpha Elements in these stars, like Magnesium (Mg), Silicon (Si) or Titanium (Ti). The research found that the ratio of these, compared with the amount of Iron (Fe), was consistently higher in stars with planets, with the greatest discrepancy observed for Mg.

The lead author of the paper, CAUP Astronomer Vardan Zh. Adibekyan commented "These findings indicate that some metals other than iron are involved in the process of planet formation, especially when the amount of iron is lower than solar. These results may provide strong constraints for the models of planet formation, especially for planets with low mass."

The leading theories of planet formation suggest that planets form by clumping smaller particles of heavy elements (metals), into larger and larger bodies. The results put forward by the present study suggest that planets need a minimum amount of "metals" to be formed. The formation of planets, even the lowest mass ones, is dependent on the dust content of the cloud that gave origin to the star and planetary system.

Alpha elements are integer multiples of the mass of the helium (He) nucleus (also known as alpha particle). As an example, adding an alpha particle (He nucleus) to a Carbon atom results in an Oxygen atom, and adding an alpha particle to that, originates a Neon atom.

[Paper in detail](#)

Related Links

[Centro de Astrofísica da Universidade do Porto](#)
[Lands Beyond Beyond - extra solar planets - news and science](#)
[Life Beyond Earth](#)



Illustration only.

Recommend

Send

6 people recommend this. Be the first of your friends.

Tweet 4

Comment on this article via your Facebook, Yahoo, AOL, Hotmail login.



Post to Facebook
 Posting as João Guedes (Not you?)

Facebook social plugin

Share this article via these popular social media networks



EXTRA SOLAR

Five Potential Habitable Exoplanets Now

Arecibo PR (SPX) Aug 08, 2012

New data suggests the confirmation of the exoplanet Gliese 581g and the best candidate so far of a potential habitable exoplanet. The nearby star Gliese 581 is well known for having four planets with the outermost planet, Gliese 581d, already suspected habitable. This will be the first time evidence for any two potential habitable exoplanets orbiting the same star. Gliese 581g will be incl ... read more



MOON DAILY

Chinese firm to send Spanish rover to moon in 2014

LRO Spectrometer Detects Helium in Moon's Atmosphere

NASA's 'Mighty Eagle' Robotic Prototype Lander Flies Again at Marshall

Roscosmos Announces Tender for Moon Rocket Design

MARS DAILY

NASA wants to measure 'Marsquakes'

Curiosity rover set for first test drive

Rover's Laser Instrument Zaps First Martian Rock

Fantastic Phobos

SPACE TRAVEL

XCOR Becomes Corporate Sponsor of Uwingu, a Space Apps Company

For US students, plane tickets, TVs are relics

Voyager at 35: Break on Through to the Other Side

Florida Spaceport Stakes Claim to Commercial Missions

DRAGON SPACE

Is China Going to Blast Past America in Space?

China's manned spacecraft in final preparations for mid-June launch

Hong Kong people share joy of China's manned space program

China's Long March-5 carrier rocket engine undergoes testing

STATION NEWS

ISS Orbit Adjustment to Continue on August 22

Cosmonauts Begin First Expedition 32 Spacewalk

ATV-3 Vehicle Fails to Adjust Space Station Orbit

ISS crew to embark on two spacewalks in August

LAUNCH PAD

India's GSAT-10 satellite continues its checkout for the upcoming Arianespace Ariane 5 mission

Flight Readiness Review Complete; No Constraints to Aug. 23 Launch

Russian Booster Rocket Lifts US Satellite in Seaborne Launch

Satellite preparations move into full swing for the next Arianespace Soyuz mission from French Guiana

EXTRA SOLAR

Exoplanet hosting stars give further insights on planet formation

First Evidence Discovered of Planet's Destruction by Its Star

Five Potential Habitable Exoplanets Now

RIT Leads Development of Next-generation Infrared Detectors

TECH SPACE

UCSB researchers demonstrate that 15=3x5 about half of the time

Yap.TV tunes Internet Age viewing for the world

Apple-Samsung smartphone clash heads to jury

Scientists shed light on glowing materials



[Tempur-Pedic
Mattress
Comparison](#)

SPACE MEDIA NETWORK PROMOTIONS

[Solar Energy Solutions](#)
[Memory Foam Mattress Review](#)

Newsletters :: [SpaceDaily Express](#) :: [SpaceWar Express](#) :: [TerraDaily Express](#) :: [Energy Daily](#)
XML Feeds :: [Space News](#) :: [Earth News](#) :: [War News](#) :: [Solar Energy News](#)

The content herein, unless otherwise known to be public domain, are Copyright 1995-2012 - Space Media Network. AFP, UPI and IANS news wire stories are copyright Agence France-Presse, United Press International News Service. ESA Portal Reports are copyright European Space Agency. All NASA sourced material is public domain. Additional copyrights may apply in whole or part to other bona fide parties. Advertising disclosure, endorsement, agreement or approval of any opinions, statements or information provided by Space Media Network on any Web page published or hosted by Space Media Network. [Privacy Statement](#)