

Partnerships between Professional and Amateur Astronomers: A Shift in Research Paradigm

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JUPITER

19 July 2009
Anthony Wesley
Marumbataman NSW, AU

25 July 2009
NASA/JPL/NIFCAH2

Jupiter - July 23, 2009
Hubble Space Telescope
Wide Field Camera 3

23 July 2009
Germany North
MICHELLE

IMPACT

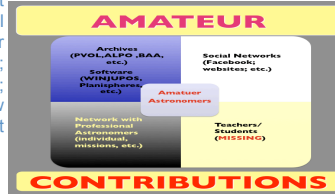
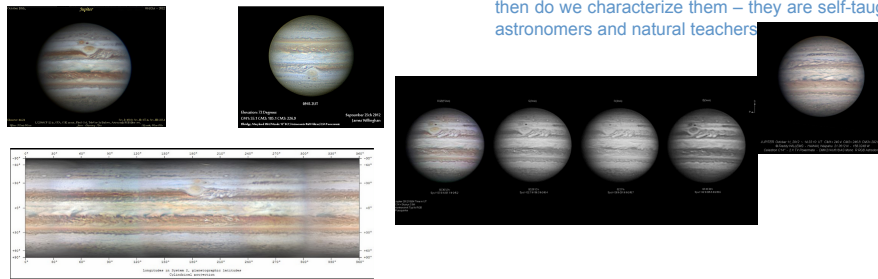
2009

When Amateur Astronomers Cross the Line: Researchers or Teachers?

"Citizen Astronomy" can be thought of as the paradigm shift transforming the nature of observational astronomy. The emerging partnerships between professional and dedicated amateur astronomers rely on creating a niche for long timeline of multispectral remote sensing. The strong synergy between the two groups has produced scientific results, published in peer-reviewed journals. With the active inclusion and use of emerging social media (Facebook, Twitter, etc.), the near daily communication and updates, the partnerships between the two groups is becoming a powerful tool for ground-based remote sensing. Most of the amateur astronomers are sophisticated tech-savvy, knowledgeable dedicated group of observers that provide a much-needed resource for professional observers: near-continuous, rapid response global observing network. Recent applications of Citizen Science are The Planet Hunters, Zoo Universe, which allows visual inspection of various astronomical data. Our Amateur Astronomers Network spans the globe; archives their data; develop and maintain software; assist with data comparison and visualization. How then do we characterize them – they are self-taught astronomers and natural teachers.

However, what is sorely lacking in this paradigm is a bridge between the Amateur Astronomer Networks and the secondary and tertiary classrooms. Various STEM programs need to recognize these networks as local resources to integrate into their curricular, after-school programs, and guest speakers. Similarly, community colleges should consider including them as Adjunct Faculty to collaborate lessons in various science and math fields. Finally, inclusion of the amateur astronomers in various observing programs, recognition of their efforts at scientific conferences are new bridges that need will provide high quality results for low cost investment of funds and time.

SOME RECENT DATA



OUR NETWORK

AND GROWING...

SATURN

STORM

DECEMBER 2010

Left image taken by T. Kumamori on 5 December 2011 in Japan. Top image taken by S. Ghomadez, on 8 December 2011, in Iran.

The first ground-based observations of the outbreak were taken by amateur astronomers (top left and right panels) and with the ESO/VLT mid-ir camera VISIR on 11 Jan 2011 (Fletcher et al., 2011), showing the bright feature was warmest in the stratosphere (7- 12-microns) and cooler in the troposphere. Comparison with visible image by amateur astronomer T. Barry, on 11 Jan 2011, shows anti-correlation with similar structures in the clouds and thermal fields. The extensive ground-based amateur astronomer data, coordinated by Marc Delcroix, indicates the initial outbreak developing into the pattern of previously observed great storms on Saturn (shown right, bottom). The tracks of the storm features are shown on the right.

Marc Delcroix, Director, Planetary Observations section, French Astronomical Society.

