



Stonehenge at sunset

# Cosmology/Astrophysics News

September 18, 2019 for Rose City Astronomers SIG

<http://101iq.com/RCA>

# Nature – July 11, 2019

- Low retention of impact material by the moon
  - <https://www.nature.com/articles/d41586-019-02066-w>
  - <https://www.nature.com/articles/s41586-019-1359-0>
  - <https://www.nature.com/articles/d41586-019-01479-x>

# Science – July 12, 2019

- Highest energy photons detected from Crab Nebula – 450TEV
  - <https://phys.org/news/2019-06-highest-energy-photons-crab-nebula.html>

# Nature – July 18, 2019

- Explosion AT2018cow strange supernova maybe
  - <https://iopscience.iop.org/article/10.3847/2041-8213/ab2915/meta>
- Japanese spacecraft probes asteroid's guts for first time
  - <https://www.nature.com/articles/d41586-019-02136-z>

# Science – July 19, 2019

- Special issue – Apollo Landing – 50<sup>th</sup> anniversary
  - <https://science.sciencemag.org/content/365/6450/232>
  - <https://science.sciencemag.org/content/365/6450/240>
  - <https://science.sciencemag.org/content/365/6450/234>
  - <https://science.sciencemag.org/content/365/6450/226>
  - <https://science.sciencemag.org/content/365/6450/238>

# Nature – July 25, 2019

- Mystery deepens over speed of Universe's expansion
  - <https://www.nature.com/articles/d41586-019-02198-z>
- General relativistic orbital decay in a seven-minute orbital-period eclipsing binary system
  - <https://www.nature.com/articles/s41586-019-1403-0>

# Science – July 26, 2019

- New tactics clash on speed of expanding universe
  - <https://science.sciencemag.org/content/365/6451/306>

# Nature – August 1, 2019

- Black hole puts Einstein to the test
  - <https://science.sciencemag.org/content/365/6454/664>



# Science – August 2, 2019

- A three-dimensional map of the Milky Way using classical Cepheid variable stars
  - <https://science.sciencemag.org/content/365/6452/478>

# Nature – August 8, 2019

- A dominant population of optically invisible massive galaxies in the early Universe
  - <https://www.nature.com/articles/s41586-019-1452-4>

# Science – August 9, 2019

- Hunt for sterile neutrinos
  - <https://science.sciencemag.org/content/365/6453/532>
- Find the location of a fast radio burst
  - <https://science.sciencemag.org/content/365/6453/546>
  - <https://science.sciencemag.org/content/365/6453/565>

# Nature – August 15, 2019

- Dark energy mapper will reconstruct 11 billion years of cosmic history
  - <https://www.nature.com/articles/d41586-019-02424-8>
- Radioastronomers take aim at the Universe's first billion years
  - <https://www.nature.com/articles/d41586-019-02417-7>
- Signs that Jupiter was mixed by a giant impact
  - <https://www.nature.com/articles/d41586-019-02401-1>
  - <https://www.nature.com/articles/s41586-019-1470-2>
- X marks the spot for fast radio bursts
  - <https://www.nature.com/articles/d41586-019-02400-2>
  - <https://www.nature.com/articles/s41586-019-1389-7>

# Science – August 16, 2019

- Helium hydride (HeH) detected in NGC7027
  - <https://science.sciencemag.org/content/365/6454/639>
  - <https://science.sciencemag.org/content/365/6454/676>
- Redshift of star S0-2 orbiting black hole in center of Milky Way – relativity confirmed again
  - <https://science.sciencemag.org/content/365/6454/664>

# Nature – August 22, 2019

- More on repeating fast radio bursts
  - <https://www.nature.com/articles/d41586-019-02455-1>
  - <https://www.nature.com/news/astronomers-grapple-with-new-era-of-fast-radio-bursts-1.21557>

# Science – August 23, 2019

- Black hole – neutron star collision
  - <https://www.sciencemag.org/news/2019/08/scientists-may-have-spotted-black-hole-and-neutron-star-colliding>

# Nature – August 29, 2019

- No cosmology/astrophysics this issue



# Science – August 30, 2019

- No cosmology/astrophysics this issue

# Nature – September 5, 2019

- India counts down to risky Moon landing at south pole (Chandrayaan-2) – lost contact during landing
  - <https://www.nature.com/articles/d41586-019-02587-4>
- Fast inflows as the adjacent fuel of supermassive black hole accretion disks in quasars
  - <https://www.nature.com/articles/s41586-019-1510-y>
- Absence of a thick atmosphere on the terrestrial exoplanet LHS3844b
  - <https://www.nature.com/articles/s41586-019-1497-4>

# Science – September 6, 2019

- Antlia 2 – faint companion galaxy to the Milky Way
  - <https://science.sciencemag.org/content/365/6457/996.6>
- Radio emission from a pulsar's magnetic pole revealed by general relativity
  - <https://science.sciencemag.org/content/365/6457/1013>

# Nature – September 12, 2019

- Inflation of 430-parsec bipolar radio bubbles in the Galactic Center by an energetic event
  - <https://www.nature.com/articles/s41586-019-1532-5>

# Science – September 13, 2019

- Robot detector to map cosmos for clues to dark energy's force – looking for galaxy clumping to see if dark energy is uniform or not
  - <https://science.sciencemag.org/content/365/6458/1066>
- India spots fallen moon craft, fails to make radio contact
  - <https://science.sciencemag.org/content/365/6458/1069>
- Hubble Constant?
  - <https://science.sciencemag.org/content/365/6458/1076>
  - <https://science.sciencemag.org/content/365/6458/1134>

# Scientific American - August 2019

- Mach effect and others for space propulsion
  - <https://www.scientificamerican.com/article/the-good-kind-of-crazy-the-quest-for-exotic-propulsion/>
- The Three-Body Problem
  - <https://www.scientificamerican.com/article/the-three-body-problem/>

# Miscellaneous

- Next meeting October 23, 2019