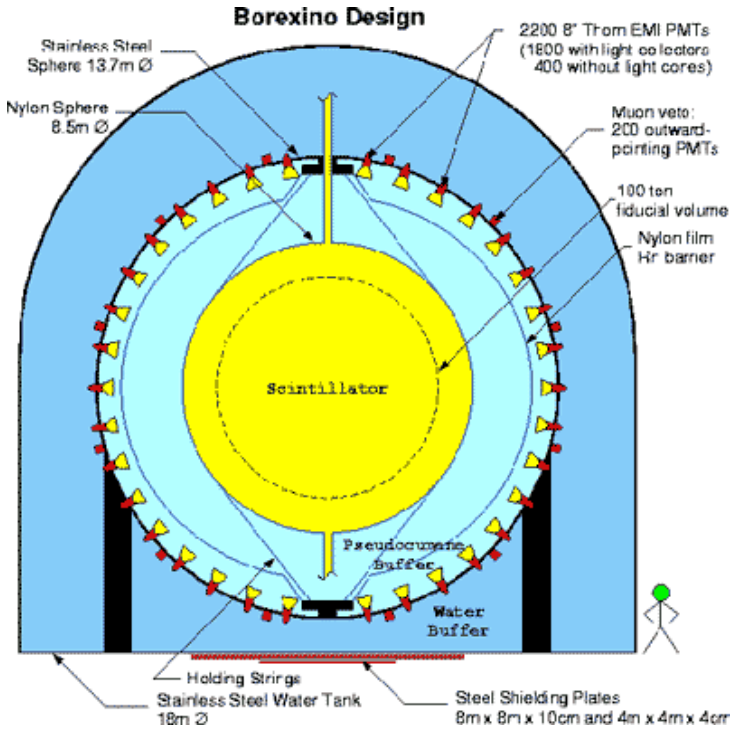
Sunspotters: Dark matter particles detected from Sun

Contents

1. Dark matter particles from the core of the SUN (Borexino Detector)

- Signal in space that can only be explained by the exotic particles
- Other sources such as galaxies and stars for the signal were ruled out
- Theory is that dark matter particles called axions are being converted into photons by Earth's magnetic field
- It's thought these axions are being produced in the sun's core
- If confirmed it would indicate that stars are a source of dark matter
- President of the Royal Astronomical Society Professor Martin Barstow - it is a 'really exciting result'
- http://www.dailymail.co.uk/sciencetech/article-2797310/dark-matter-particles-finally-coming-core-sun.html



If confirmed by other Labs Nobel Prizes assured.

Link to Borexino Site … Very interesting, informative and accessible for non-scientist.

http://www.lngs.infn.it/lngs_infn/index.htm?mainRecord=http://www.lngs.infn.it/lngs_infn/contents/lngs_en/public/educational/physics/experiments/current/borexino/

First detection of lower energy neutrinos from Sun by Borexino (Another Nobel?)

In August, the Borexino Site published another scientific "first" by detecting the lower energy neutrinos produced by the proton-proton interaction in the Sun

"Here we report spectral observations of *pp* neutrinos, demonstrating that about 99 per cent of the power of the Sun, 3.84×10^{33} ergs per second, is generated by the proton–proton fusion process." (*Nature 512, 383-386 28 August 2014*

'If the eyes are the mirror of the soul, with these neutrinos, we are looking not just at its face, but directly into its core. 'We have glimpsed the sun's soul.' Dr Andrea Pocar – University of MA Amherst

http://www.dailymail.co.uk/sciencetech/article-2737574/Elusive-solar-neutrinos-offer-glimpse-sun-s-soul-Bizarre-particles-reveal-new-clues-star-s-power.html

2. Rosetta Mission Rivals Moon Landing in Complexity – Lands Nov 12

An amazing engineering and scientific accomplishment!

European Space Agency website has the details of this and other Missions. I found the organization of it to be much more helpful and easy to navigate than the NASA space site.

http://www.esa.int/ESA

"It will unlock this treasure chest as a clue to many comets in our solar system."

Five facts about Rosetta

http://www.space.com/26754-rosetta-comet-spacecraft-5-amazing-facts.html

1) This isn't Rosetta's first "cosmic rodeo." It made 3 flybys of Earth and one of Mars to build velocity to reach Comet.

2) Rosetta traveled for 10 years and 4 billion miles to Comet – now 62 miles from surface.

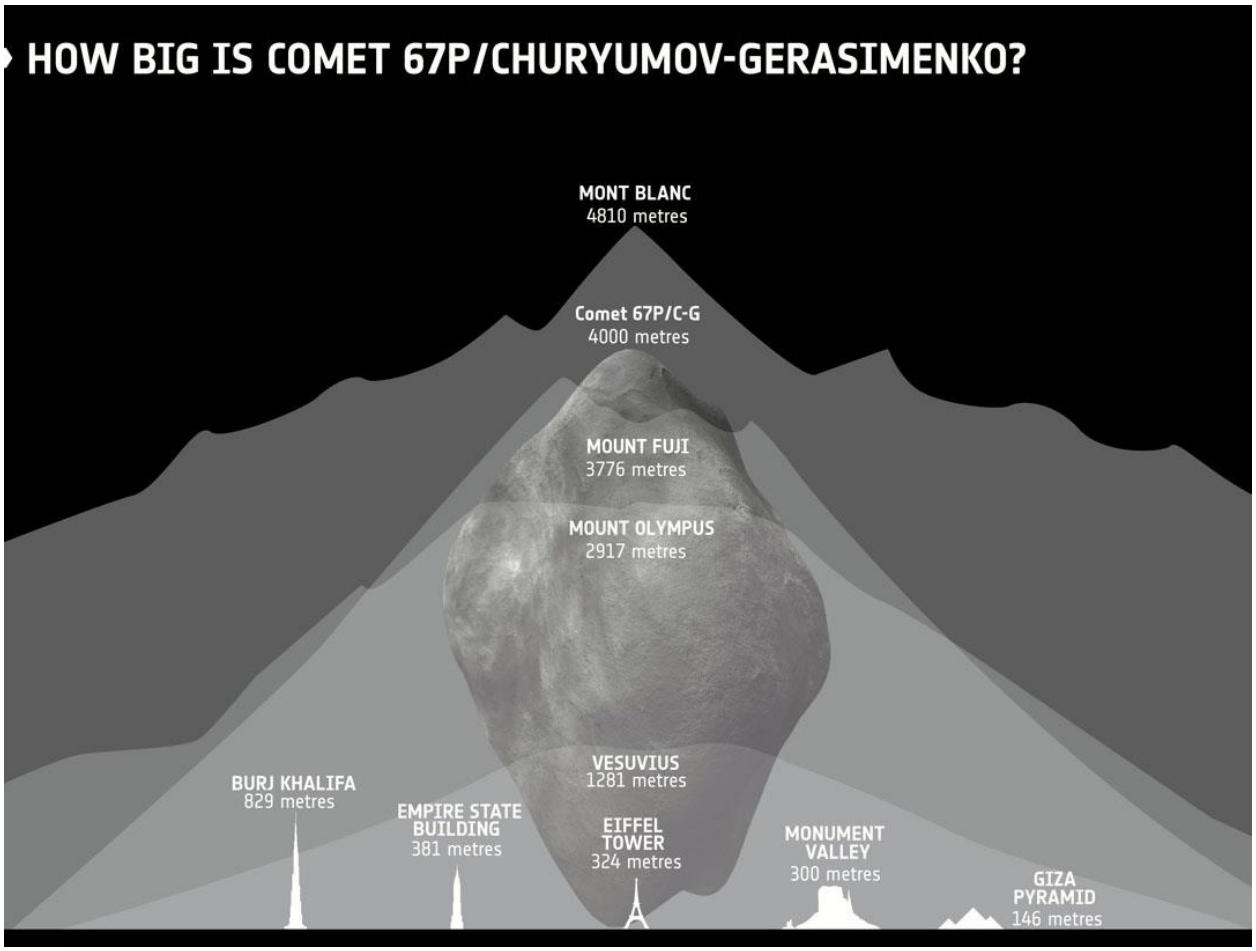
3) Rosetta will drop a lander named Philae* on the comet.

"Drop" means release from the orbiting parent and allowing the slight gravity of the comet over 7 hours to pull it to the surface at 2.2 mph * (Philae is the island in the Nile River where the Rosetta Stone was found … pronounced "Philly")

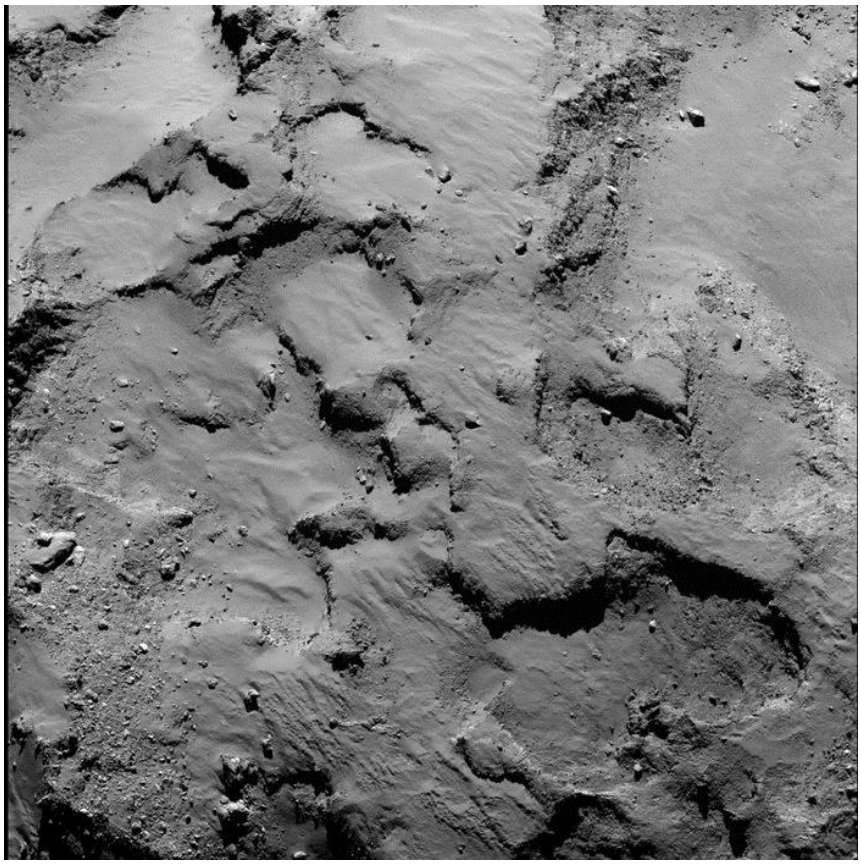
Est. EST times 11/12 - Release at - 3:35 AM (set your alarm); Landing 3:30 PM

This will be covered on their website without commercial interruptions.

4) Comet 67P/C-G is as big as a mountain – 2.5 miles wide



5) Rosetta's comet is dark and dusty – darker than charcoal



Landing Site

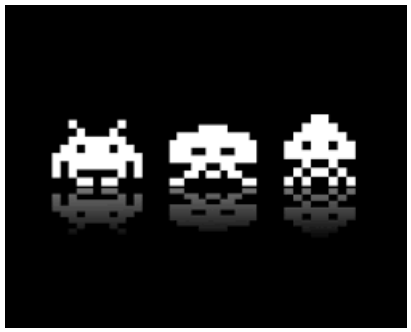
Risks - The texture and resiliency of the surface is still unknown.

3. **Aliens from Galactic Space may have been discovered!**

NASA Probe May Have Caught Dust from Interstellar Space ... a First

National Geographic – “Seven tiny grains of dust snagged by NASA's Stardust space probe and parachuted to Earth in 2006 may well have come from beyond the solar system, astronomers report in the latest issue of Science. **That would make them the first particles of interstellar dust every to be studied in a laboratory** on Earth.”

Initial scanning microscopic picture of particles



Federation Science Team carefully examining particles.

http://news.nationalgeographic.com/news/2014/08/140815-stardust-interstellar-dust-nasa-space-science/

"We are made of star-stuff." Carl Sagan

"Our sun, our solar system, our planet, everyone we know, everyone we love, everything we cared about – all of those owe their existence to a collapsing cloud of dust and gas some five billion years ago." Robert Naeye