

New Cosmology Requires Life on Cosmic Scales

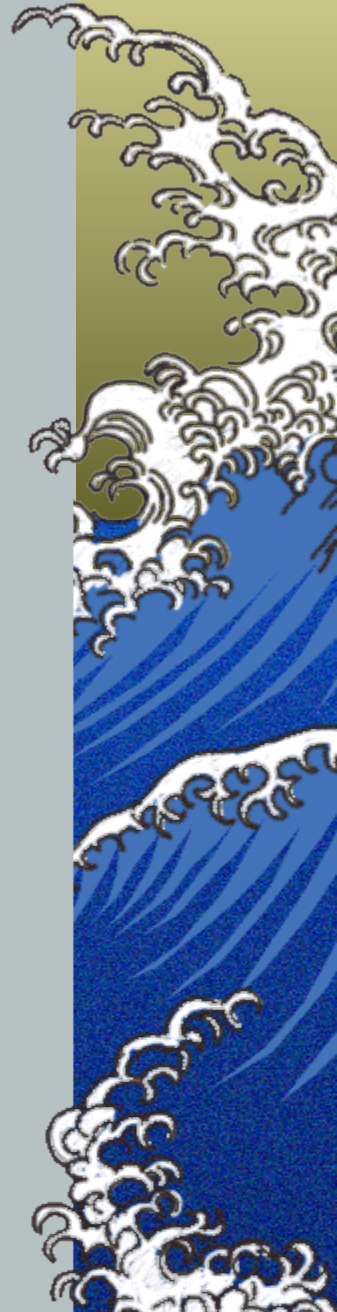
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Conference 8865: Astrobiology XVI, Aug. 27, 2013, San Diego



Abstract

Observations of the interstellar medium by the Herschel, Planck etc. infrared satellites throw doubt on Λ CDMHC cosmology to form any gravitational structures. According to the Hydro-Gravitational-Dynamics (HGD) cosmology of Gibson (1996), and the observations of Schild (1996), the dark matter of galaxies consists of Proto-Globular-star-Cluster (PGC) clumps of Earth-mass primordial gas planets in metastable equilibrium since Planet mergers within PGCs began star production at 0.3 Myr. Dark energy is a systematic dimming error. Forget Λ CDMHC cosmology.

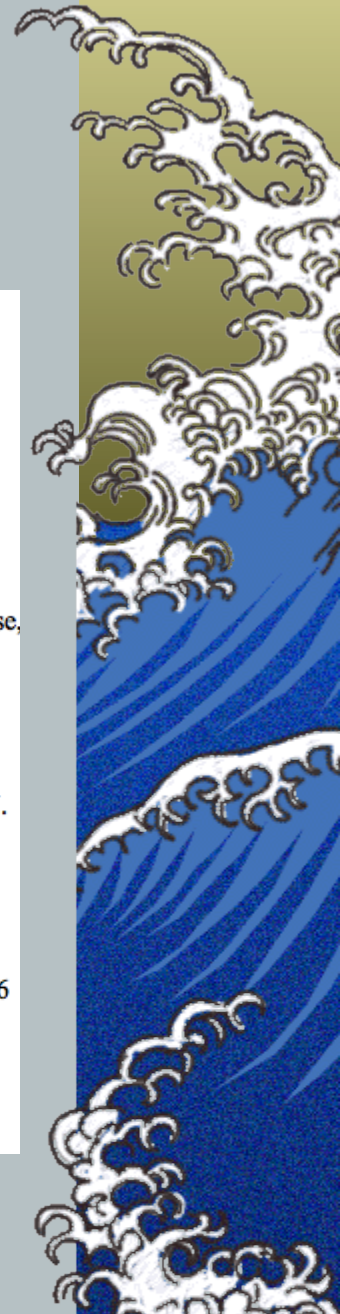
Clumps of PGCs began diffusion from the Milky Way ProtoGalaxy upon freezing at 14 Myr to give the Magellanic Clouds and the faint dwarf galaxies of the 10^{22} m diameter baryonic dark matter Galaxy halo. The first stars persist as old globular star clusters (OGCs). Stars more massive than $1.44M_{\text{SUN}}$ never existed in this model. Water oceans and the biological big bang occurred at 2-8 Myr.

[See Journalofcosmology.com](http://Journalofcosmology.com)



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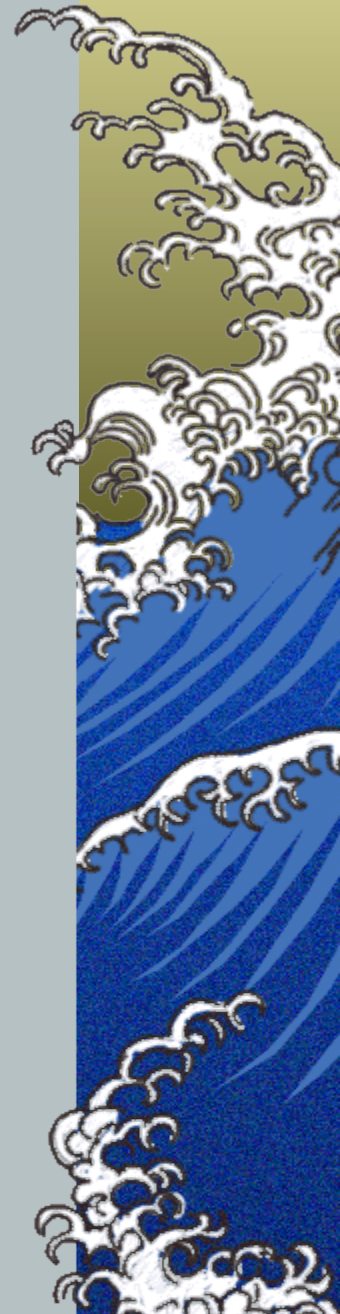
11. [TYPICAL METEORITIC WORM-LIKE FORMS SEEN IN THE POLONNARUWA METEORITE](#), Milton Wainwright, Christopher E. Rose, Alexander J. Baker, Briston, K.J. and N.Chandra Wickramasinghe, pp 10152-10157
12. [May Turbulence and Fossil Turbulence Lead to Life in the Universe?](#), C.H. Gibson, Proceedings: Turbulent Mixing and Beyond 2011, ICTP, Trieste, Italy, Preprint of Physica Scripta Special Issue, pp 10158-10162
13. [ISOLATION OF A DIATOM FRUSTULE FRAGMENT FROM THE LOWER STRATOSPHERE \(22-27Km\)-EVIDENCE FOR A COSMIC ORIGIN](#), Milton Wainwright, Christopher E. Rose, Alexander J. Baker, Briston, K.J and N. Chandra Wickramasinghe, pp 10183-10188
14. [ISOLATION OF BIOLOGICAL ENTITIES FROM THE STRATOSPHERE \(22-27Km\)](#), Milton Wainwright, Christopher E. Rose, Alexander J. Baker and N. Chandra Wickramasinghe, pp 10189-10197
15. [Allen Hills and Schopf-like putative fossilized bacteria seen in a new type of carbonaceous meteorite](#), Milton Wainwright, Christopher E. Rose, Alexander J. Baker, Briston, K.J. and Chandra Wickramasinghe, pp 10198-10205
16. [Filamentous Biological Entities Obtained from the Stratosphere](#), Milton Wainwright, Christopher E. Rose, Alexander J. Baker and N. Chandra Wickramasinghe, pp 10206-10211
17. [Microspherules and Presumptive Biological Entities Found Inside the Polonnaruwa Meteorite](#), Milton Wainwright, Christopher E. Rose, Alexander J. Baker and N. Chandra Wickramasinghe, pp 10212-10218
18. [2013 – Life is a Cosmic Phenomenon : The “Search for Water ” evolves into the “Search for Life”](#), William E. Smith, 10219-10246
19. [New Cosmology Requires Life on Cosmic Scales](#), Carl H. Gibson, Conference 8865: Instruments, Methods, and Missions for Astrobiology XVI, Aug. 27, 2013, San Diego, CA, USA, 10247-10266



Primordial Planets and Life



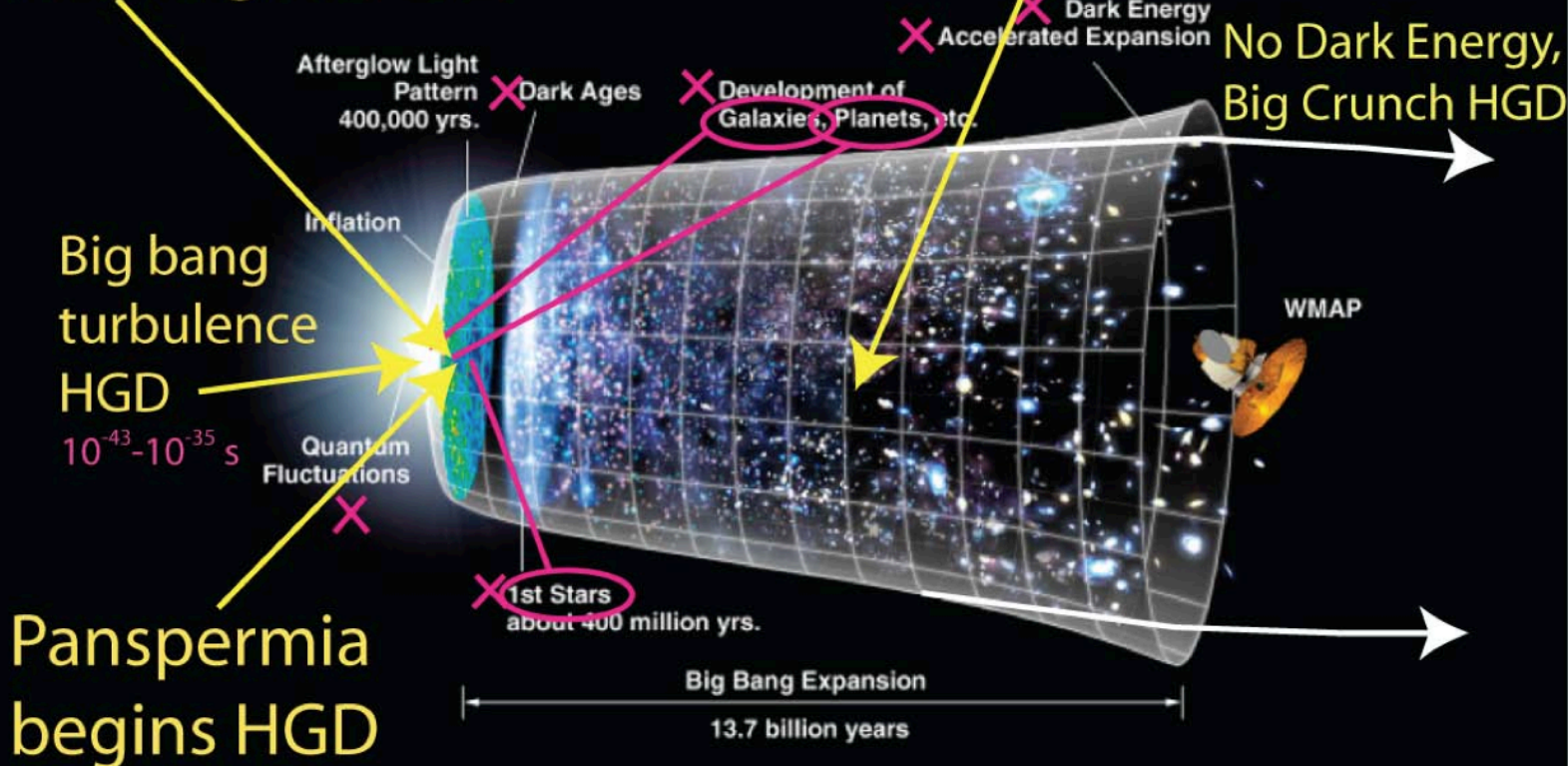
of C, 2013, Vol. 22, K. Wickramaratne and N. C. Wickramasinghe, pp 10075-10079



Comparison of New (HGD) and Old (Λ CDMHC) cosmologies

Life begins HGD

Life begins (?) Λ CDMHC



Panspermia begins HGD

X HGD versus Λ CDMHC timelines
NASA, WMAP 2006

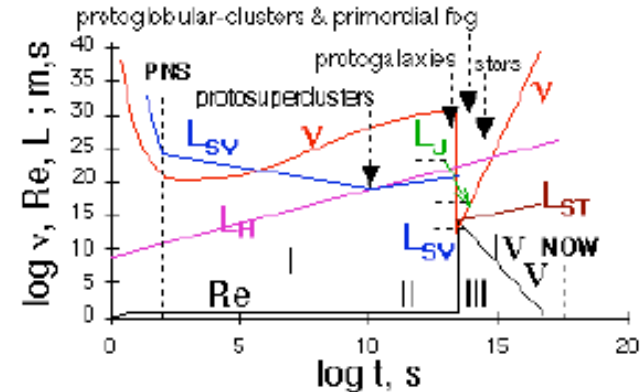
Hydro-Gravitational-Dynamics

Fluid Mechanics added to the standard cosmological model

Primordial fog particles PFPs (earth mass H-He planets) in Jeans mass clumps (PGCs, million solar mass) are formed at plasma to gas transition, Gibson (1996 May)

Earth mass planets in clumps provide the missing mass of Galaxies, Schild (1996 June) ---
From galaxy-quasar microlensing

Carl H. Gibson *Turbulence in the... universe* *Appl. Mech. Rev.* 49, no. 5, May 1996, 299-315



I. $L_{sv} > L_{sv} > L_{ST} > L_H < L_J$ Hot, viscous expansion; energy dominated; no structures

II. $L_{sv} > L_{sv} > L_{ST} < L_H < L_J$ Viscous gravitational condensation; viscosity is radiation dominated; fragmentation occurs to form voids and supercluster, cluster, galaxy mass blobs of plasma in nested clouds. Jeans scale larger than Hubble scale ct. WIMP fluid is too viscous to condense.

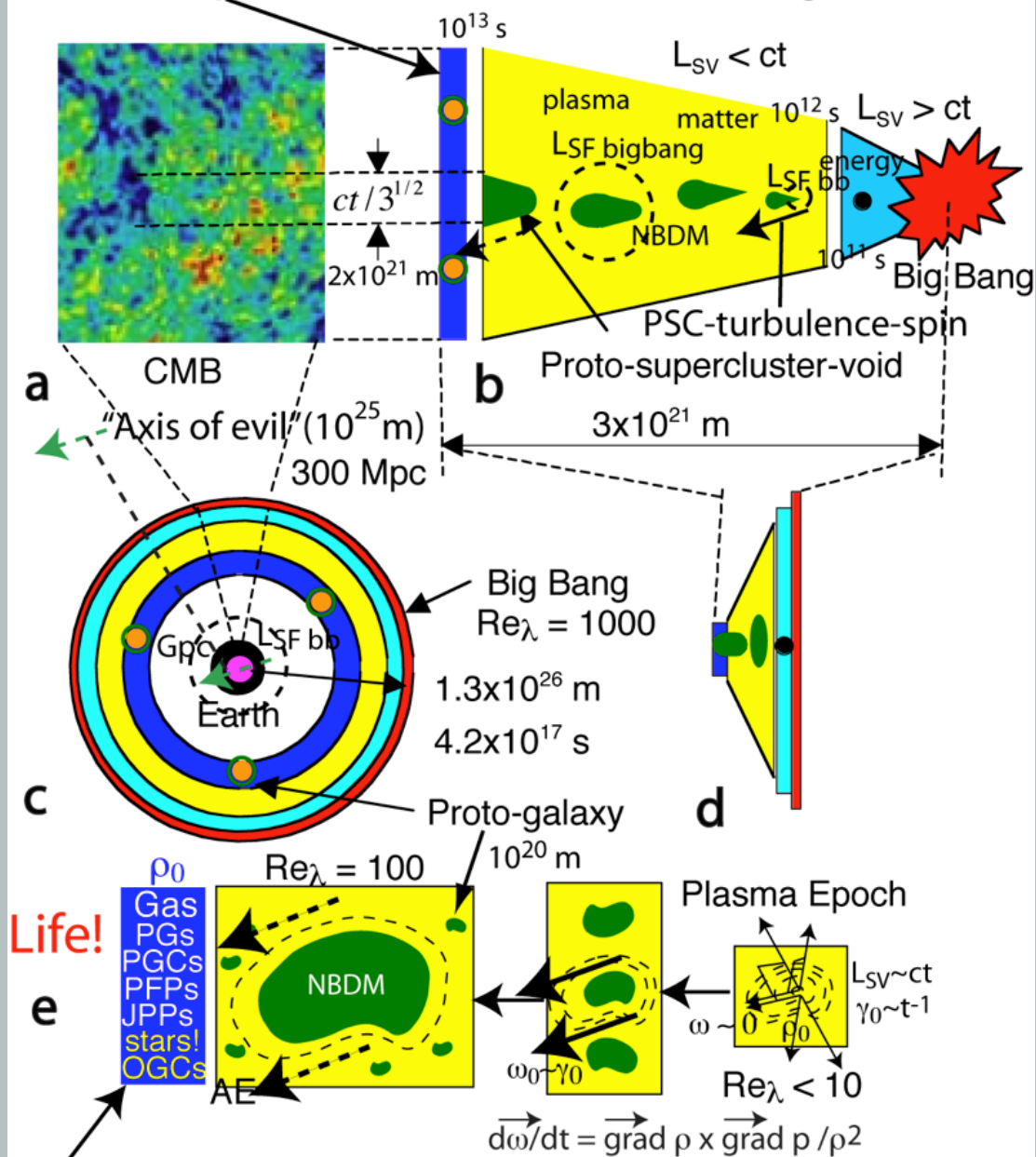
III. plasma → gas → PF, PGC → PGC → PF → star
protogalaxy → primordial fog, PF → protogalactic-clump, PGC
 $L_J > L_{ST} > L_{sv} > L_{sv} < L_H$

Primordial fog and PGC formation (entire universe) at photon decoupling; asteroid mass fog particles gradually condense to form the first stars within protogalactic-clusters at the Jeans scale.

IV. Primordial fog "dark matter" galaxy halos persist. "fog" → "fog" stars

V. WIMP "dark matter" condenses on superclusters as superhalos. supercluster → WIMP superhalo

HGD optimum time for life to begin

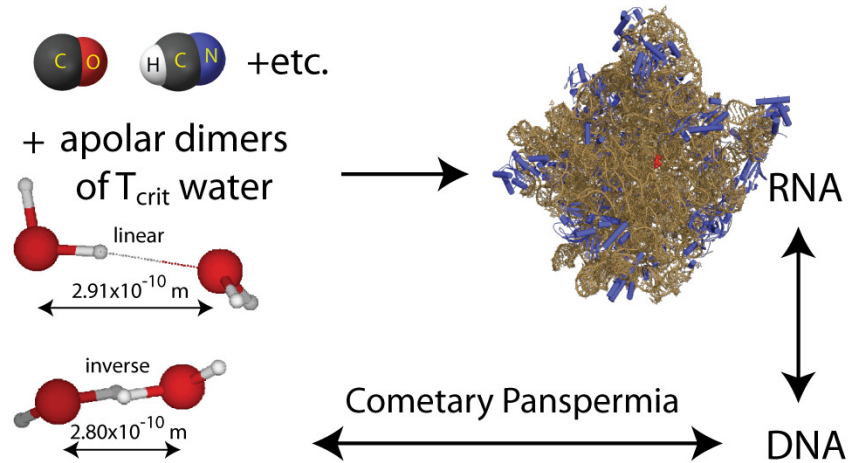
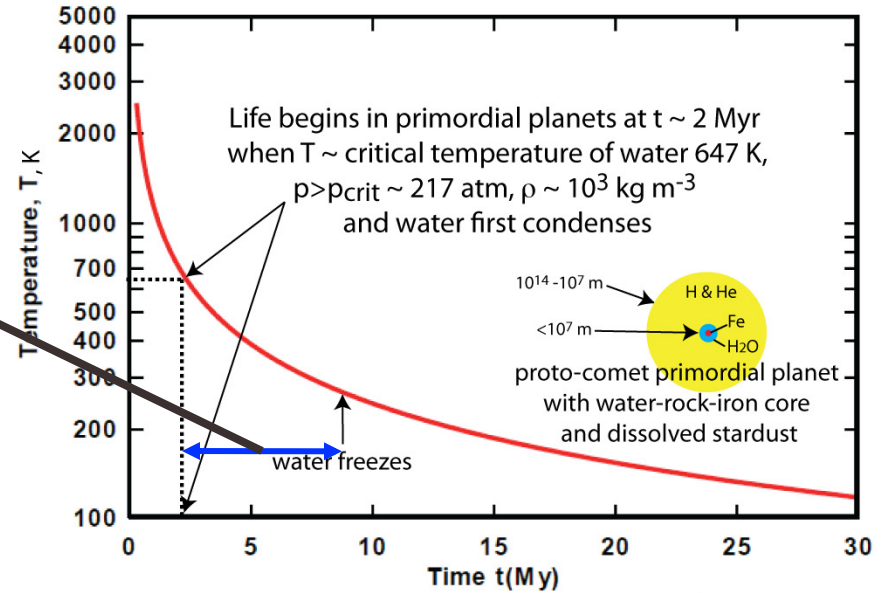


L_N scale gas protogalaxies: planets (PFPs) in clumps (PGCs)
 Life forms and is expelled by supernovae at protogalaxy centers



The Biological Big Bang

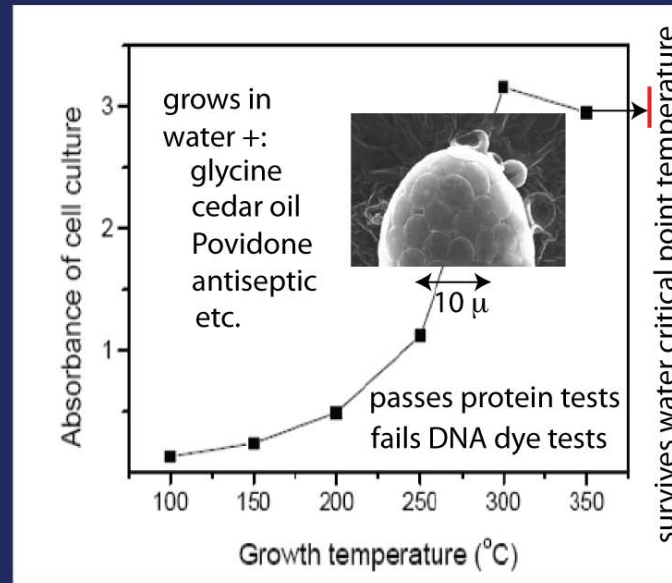
Scenario for the formation of prebiotic chemicals and first life in a PFP gas planet at 2-8 Myr. To accomplish the transition from basic organic chemicals to self-replicating molecules like RNA in the age of the universe implies an early start and numerous high temperature oceans connected on cosmic scales by cometary panspermia. PFP oceans were likely colored blue by the reaction of hydrogen cyanide with iron to form the dye Iron(II,III) hexacyanoferrate(II,III) called Prussian Blue.



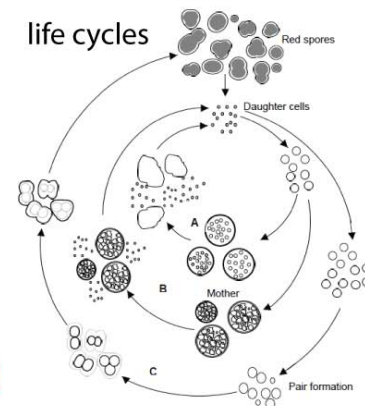
Kerala Red Rain

Tests of Red Rain hyperextremophile organism, Louis & Kumar (2003), show survival and maximum growth rates at temperatures exceeding the water critical temperature (top). Life cycles (bottom right) show daughter cells emerging from mothers, thick protective walls (transmission electron microscope), and forming cysts, but no DNA is detected by standard dye tests. A scanning electron microscope image (top insert) and growth tests to 121 °C support the L&K Conclusion that the Red Rain organism is extraterrestrial.

Red Rain 300 °C maximum growth rate
Louis & Kumar 2003, arXiv:astro-ph/0312639v1



Red Rain hyperthermophile



Conclusion: Red Rain organism is extraterrestrial

Definitions of **turbulence** and **fossil turbulence** and the direction of the turbulence cascade

Turbulence is defined as an eddy-like state of fluid motion where the inertial vortex forces of the eddies are larger than any of the other forces that tend to damp the eddies out.

**Fossil
turbulence
waves
allow seals
to survive
dark polar
winters**



**Turbulence
ALWAYS
cascades
from small
scales to
large**

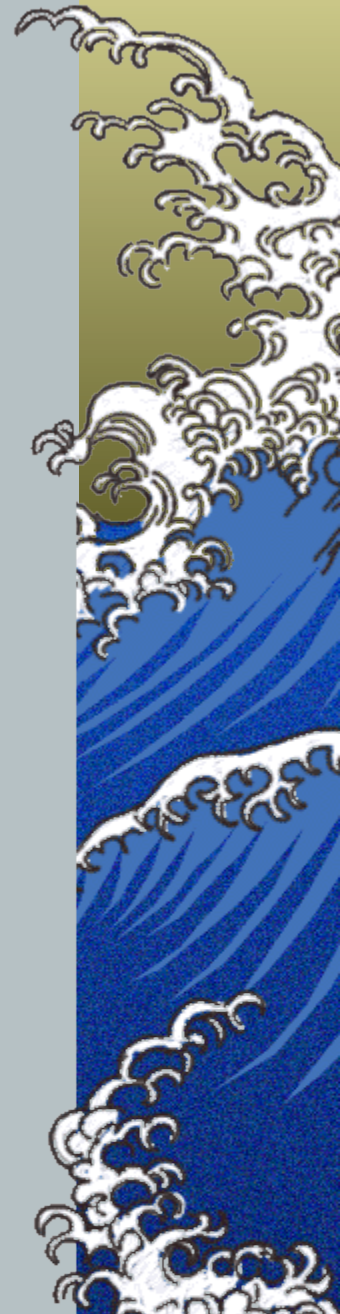
Fossil Vorticity Turbulence Detectors

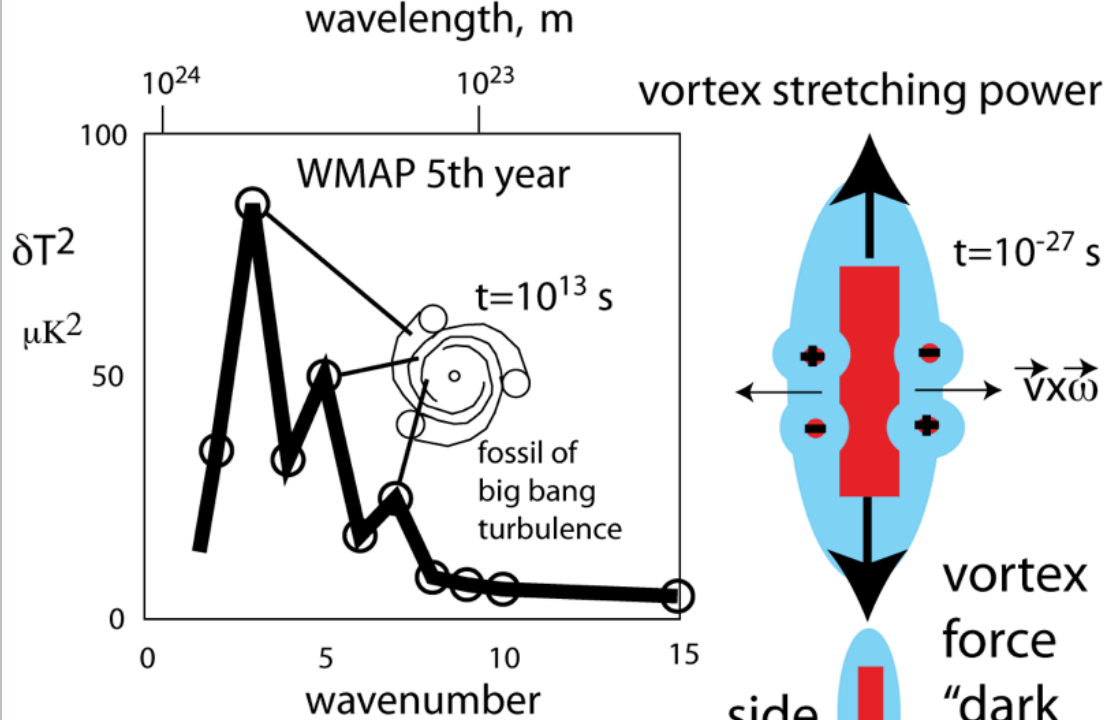
Fossil turbulence is defined as a perturbation in any hydrophysical field produced by turbulence that persists after the fluid is no longer turbulent on the scale of the perturbation.

Turbulence always cascades from small scales to large

HGD timeline events

Event	Time (seconds)
Big Bang	10^{-43} to 10^{-27}
Nucleosynthesis	10^2
Matter exceeds Energy	10^{11}
Plasma supercluster fragments	10^{12}
Plasma galaxy fragments	10^{13}
Gas galaxy fragments	$10^{13} + 10^{12}$
First stars and supernovae	$10^{13} + 10^{12}$
First water oceans and life	10^{14}

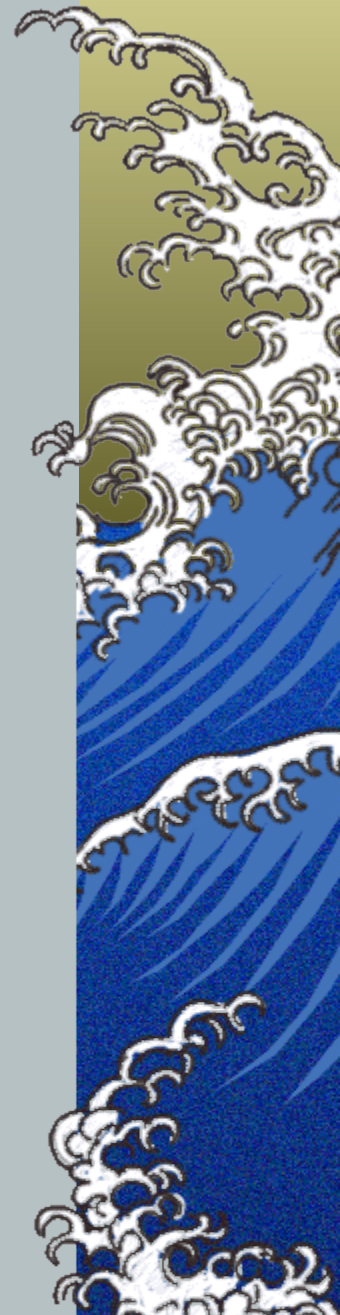
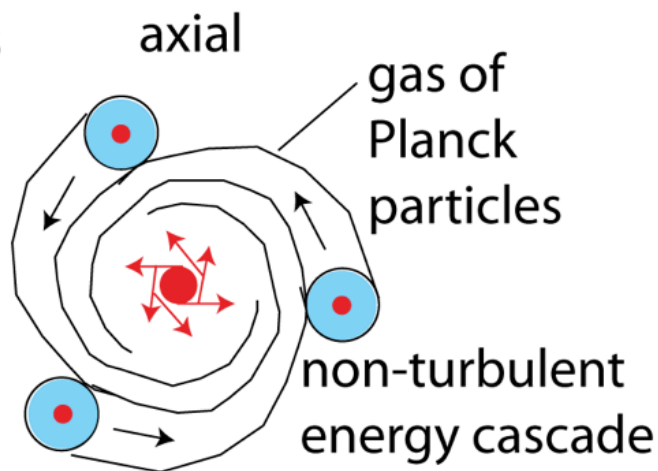




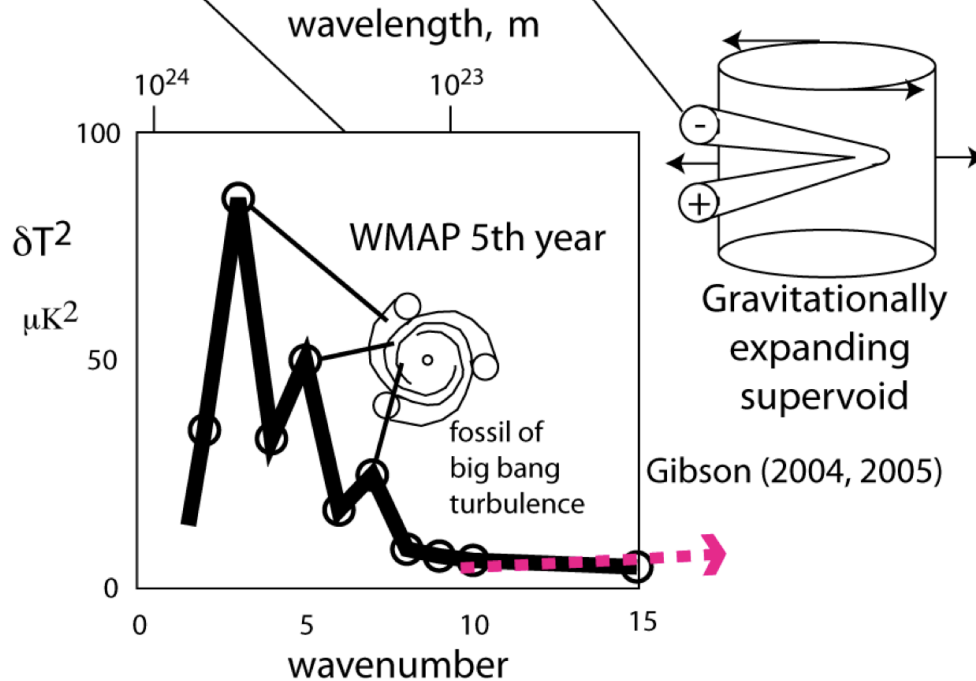
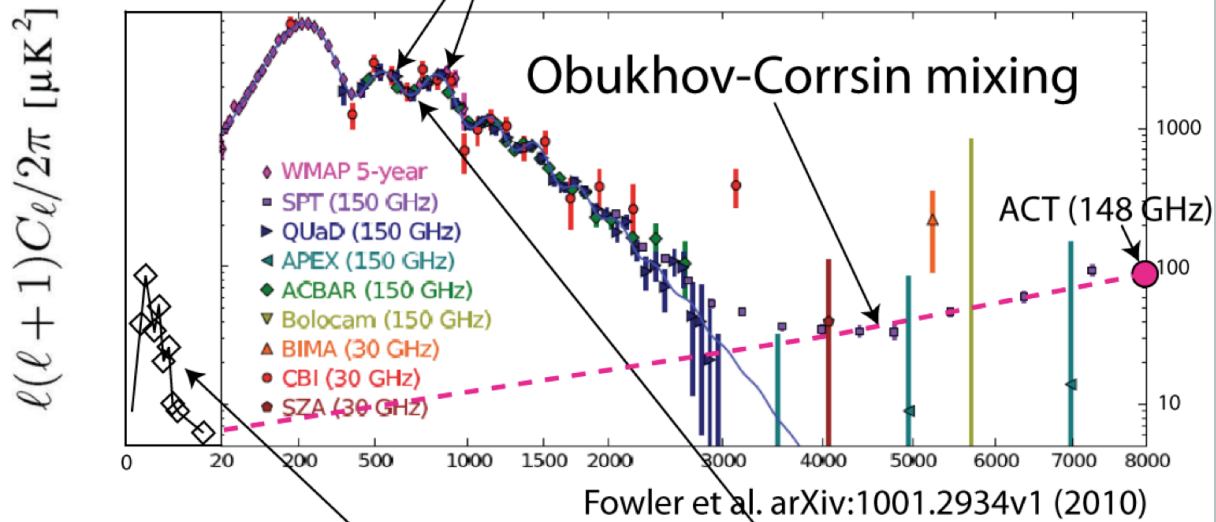
inflation at $t=10^{-27} \text{ s}$

big bang turbulence with gluon viscosity

$10^{-28} \text{ m} \rightarrow 1 \text{ m}$
($t=10^{-33} \text{ s}$)



spin wrapped supervoid vortices



Fossils of HGD proto-cluster-voids from the plasma epoch

HGD: Red galaxy detection of expanded clusters (neutrino diffusion) and expanding cluster-voids

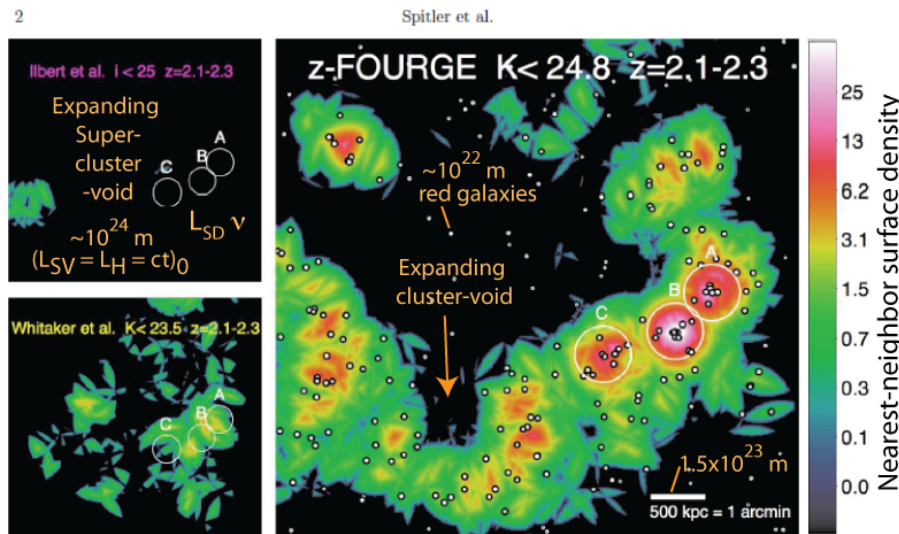
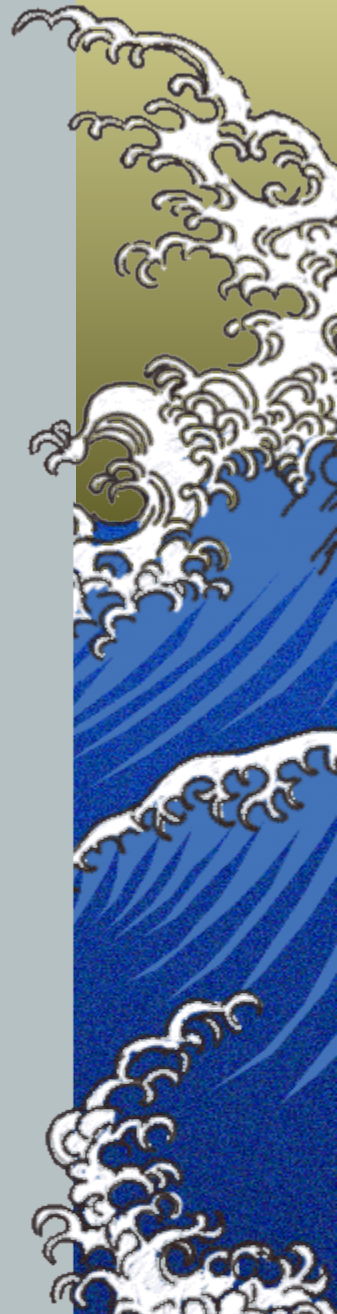


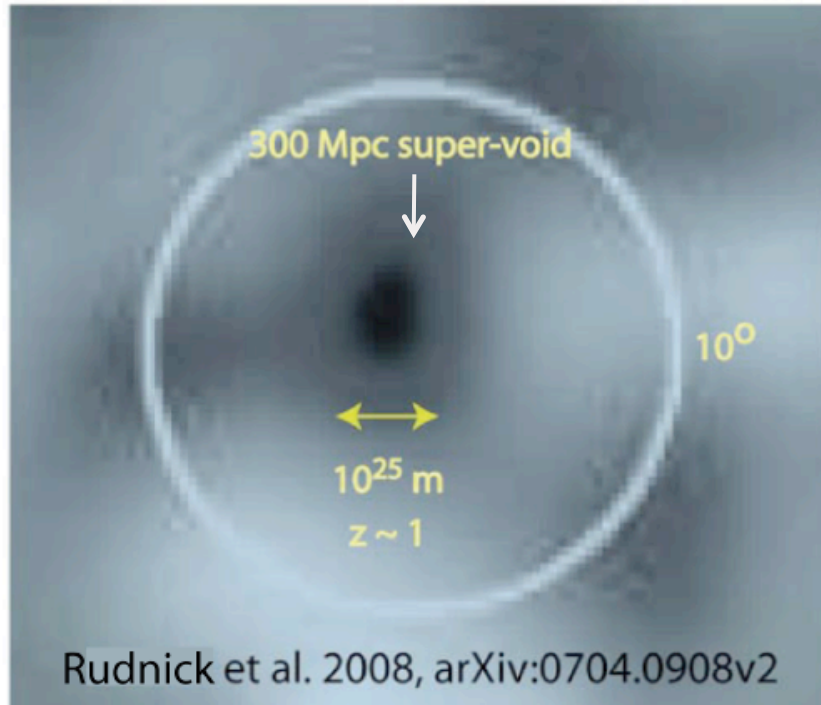
FIG. 1.— 7th nearest-neighbor surface density maps for $z = 2.1 - 2.3$ in a $\approx 9' \times 9'$ region in the COSMOS field. Units are standard deviations above the mean. Density maps, including those from literature photometric redshift catalogs (Ilbert et al. 2003; Whitaker et al. 2011), are labeled along with the limiting selection magnitude. Individual Z-FOURGE galaxies at $z = 2.1 - 2.3$ are represented by small circles. The maps illustrate the advantage of deep near-infrared imaging with medium-band filters for finding large-scale structures at $z \sim 2$.

Spitler et al. 2012 Fig. 1 filtered image of $z = 2.2$ red galaxy clusters
 HGD: Power of red galaxies is supplied by dark-matter planet mergers
 HGD: Large plasma photon viscosity controls cluster fragmentation



Fossil Super-Cluster-Void

Super-void detected in direction of CMB "cold spot"

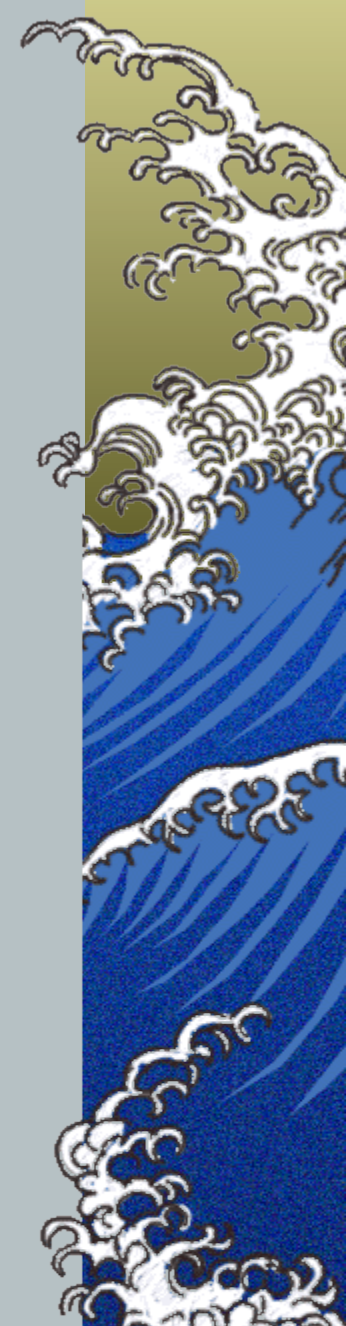
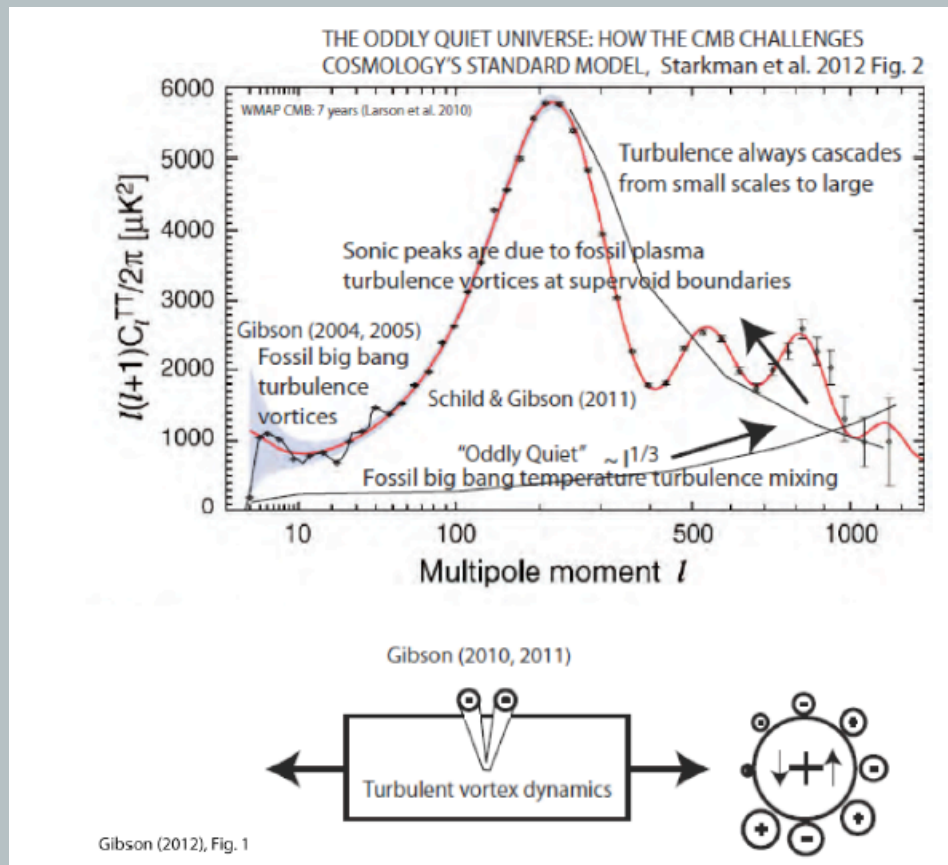


Gibson & Schild 2011
J of C, 17, 7345-7358

Figure 3. Rudnick et al. 2008 show radio telescope evidence of a 300 Mpc (10^{25} meter) diameter supervoid associated with the great cold spot observed on the cosmic microwave background, as illustrated by Cruz et al. 2006. Such a large empty region falsifies dark energy and cold dark matter hierarchical clustering scenarios. An average growth rate about 10% of the speed of light is required, as expected from HGD cosmology.

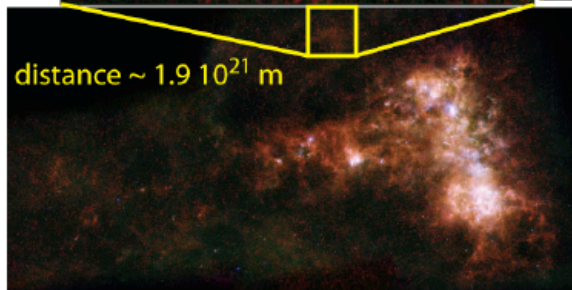
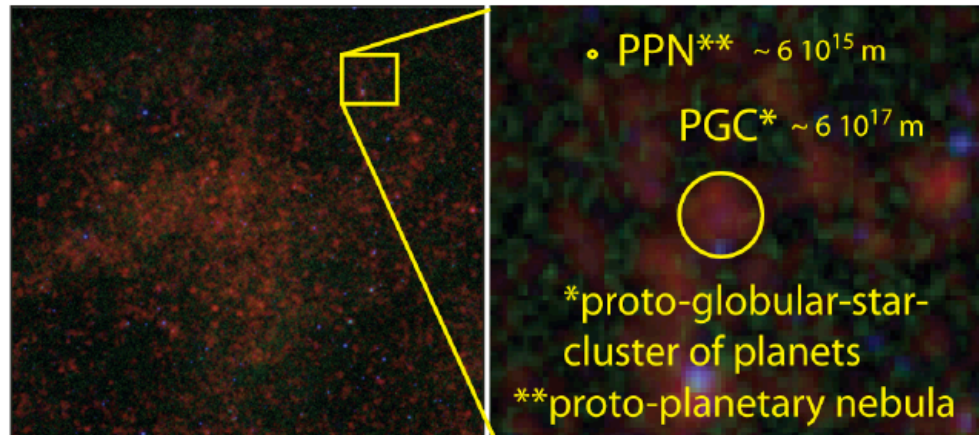


CMB turbulence patterns

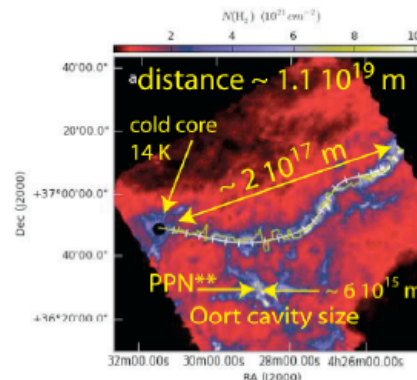


Star formation from planet mergers in the Galaxy halo

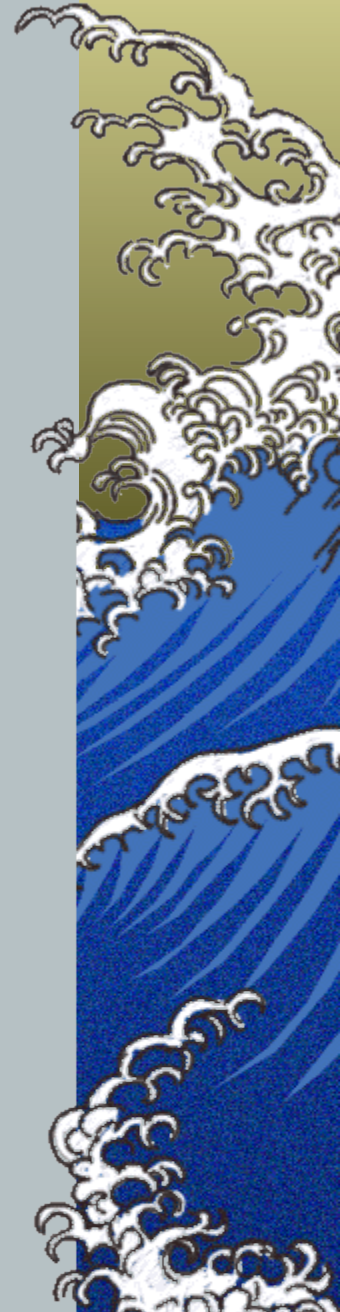
Herschel reveals 10^5 PGC dark matter clumps of merging planets



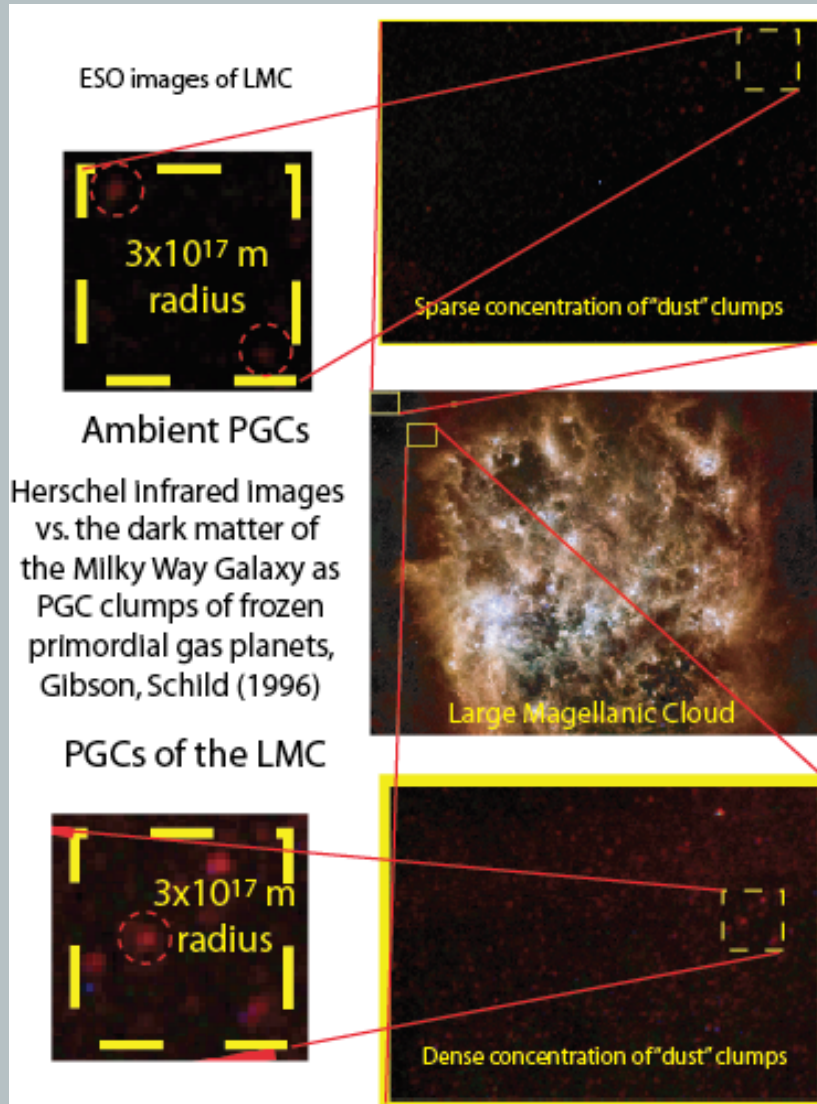
Small Magellanic Cloud, ESA-NASA



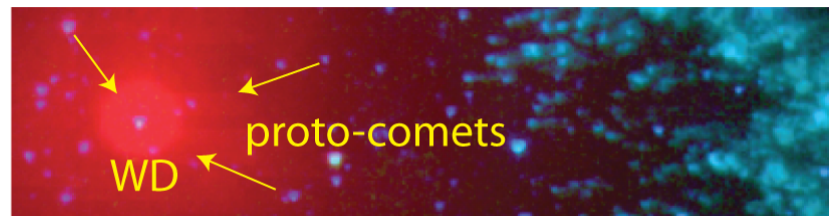
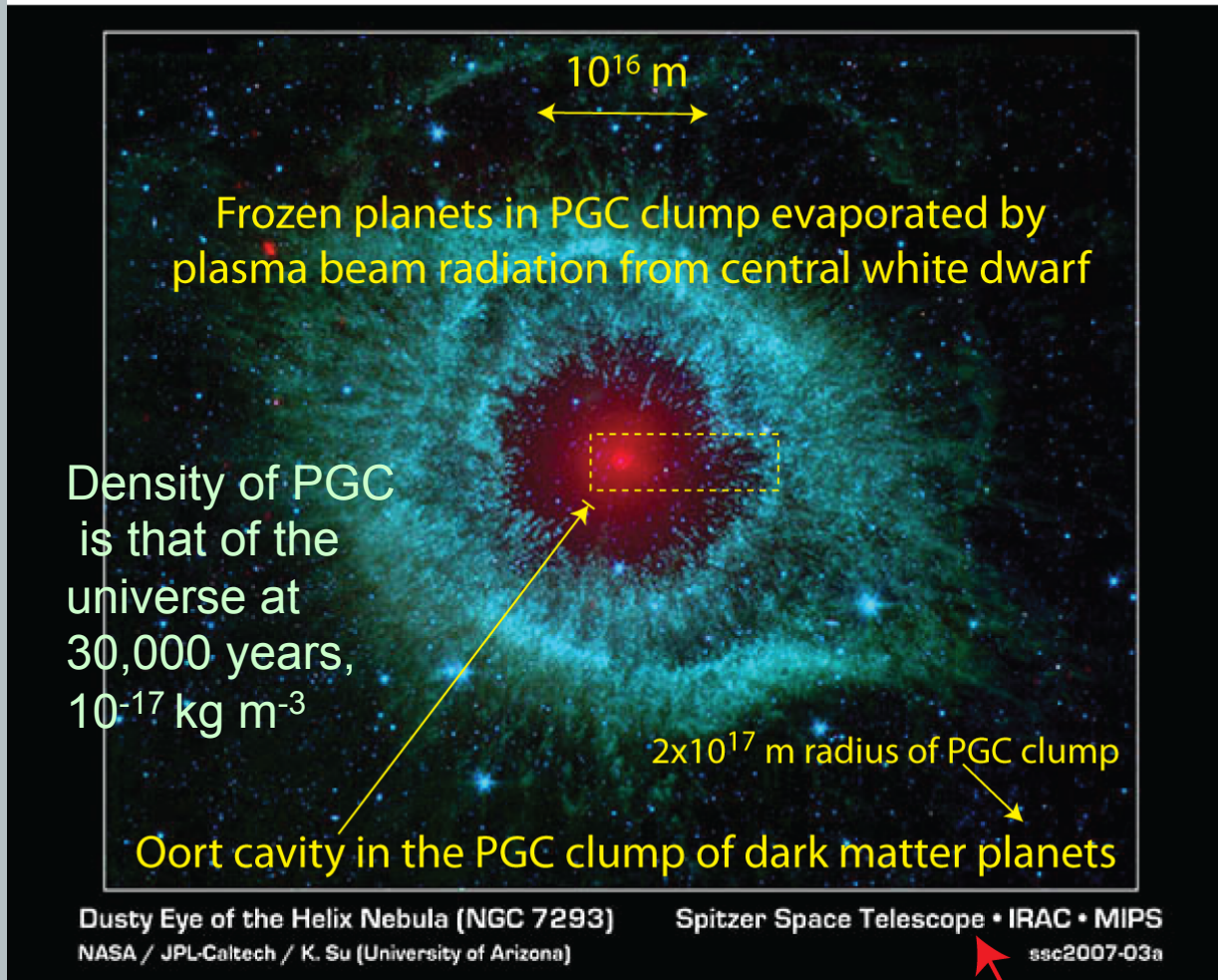
Juvela et al. 2012, Fig. 7a



Galaxy Dark Matter is planets in clumps



Spitzer infrared view of nearby Helix planetary nebula

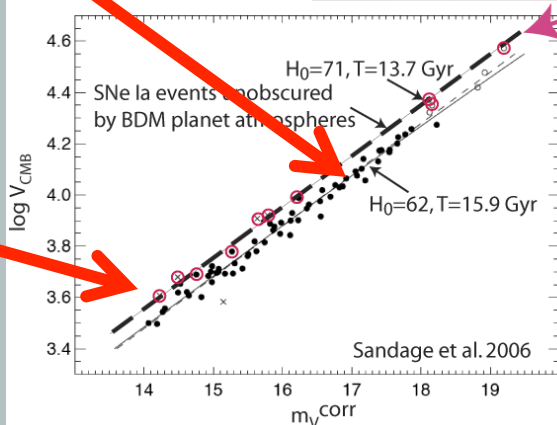
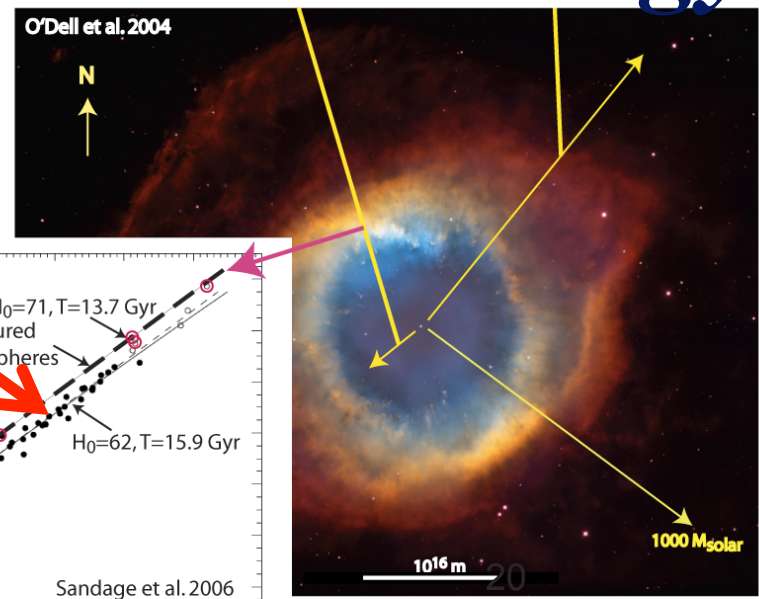
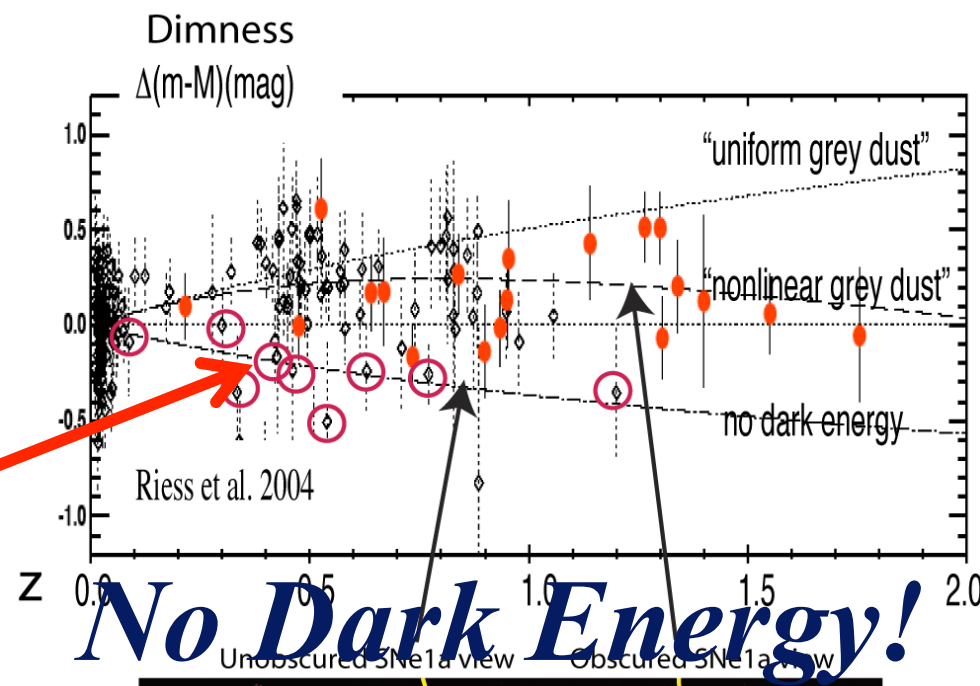


Proto-comet-planets continuously feed the plasma jet and the mass increase of the spinning central star

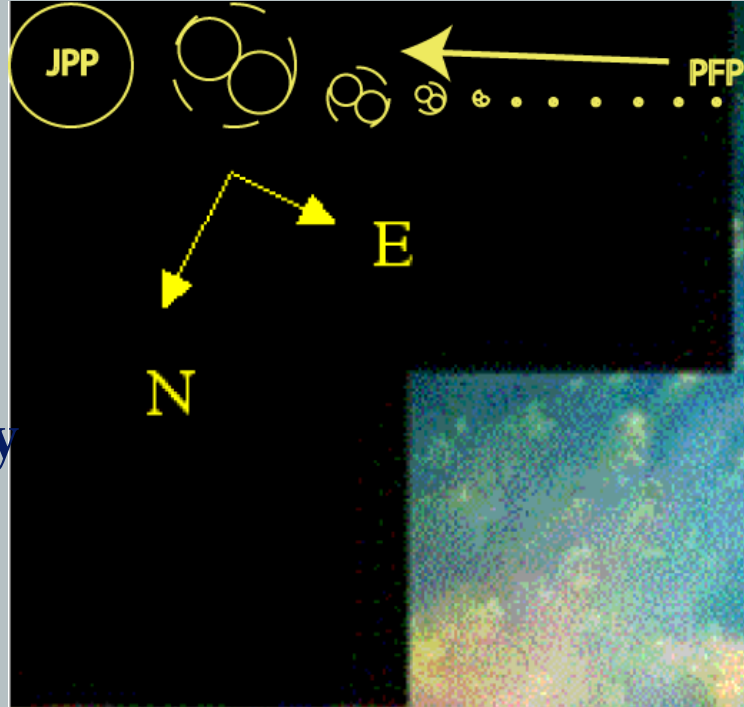


Supernova Ia dimness: BDM planets, NOT dark energy

- Supernova Ia brightness versus red shift z has been used to claim the existence of a very massive “dark energy”
- Helix planetary nebula shows evidence of Jovian planets that explain “dark energy” as a systematic error
- Sandage 2006 SNe Ia Hubble constant universe age 16 Gyr suffers from the same systematic dimming error
- Correction for planet atmosphere dimming gives 13.7 Gyr



Thousands of
“comets”
surrounding
the hot dying
star in the
Helix planetary
nebula are
evaporating
primordial fog
particles
brought out of
cold storage to
reveal the dark
matter of the
Galaxy



Evaporating JPPs

10^{14} m (Jupiters)

\leftrightarrow
 10^{25} kg

$\rho \approx 10^{-17}$ kg m⁻³

Baryonic density at the time of first structure:
30,000 years

Evaporating PFPs
(frozen Earths)

Failed MACHO, EROS, OGLE planet searches
neglected clumping and intermittency

Frozen H & He Planets evaporated by White Dwarf

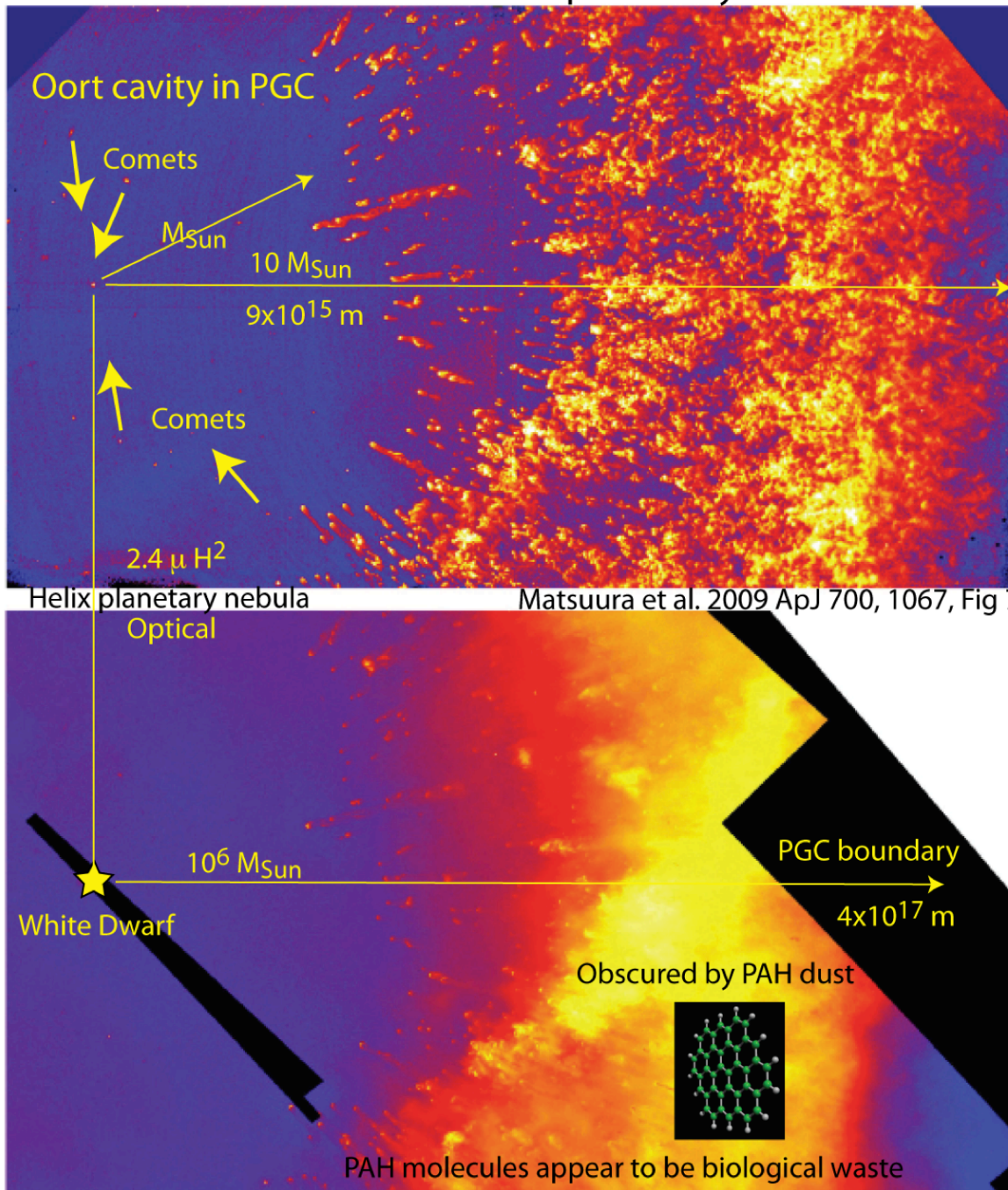
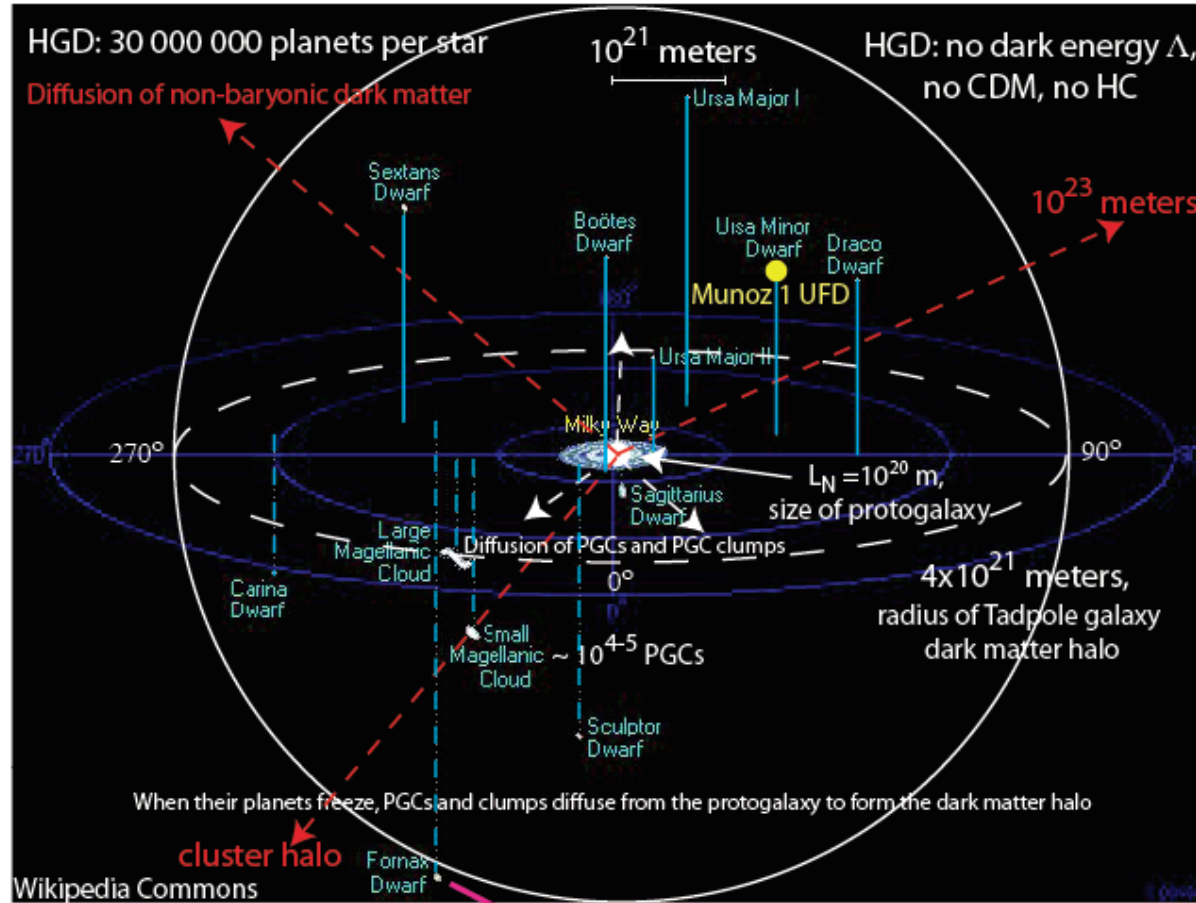


Figure 7. MOIRCS $7' \times 4'$ H_2 image (top) and corresponding region of the *HST* F658N ([NIII] + H α) image (O'Dell et al. 2004).

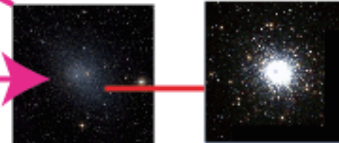


Milky Way Galaxy

Milky Way Protogalaxy PGCs and PGC clumps freeze and diffuse outward to form Galaxy Halo dwarf galaxies



population II (metal free) stars plus 6 old globular star clusters

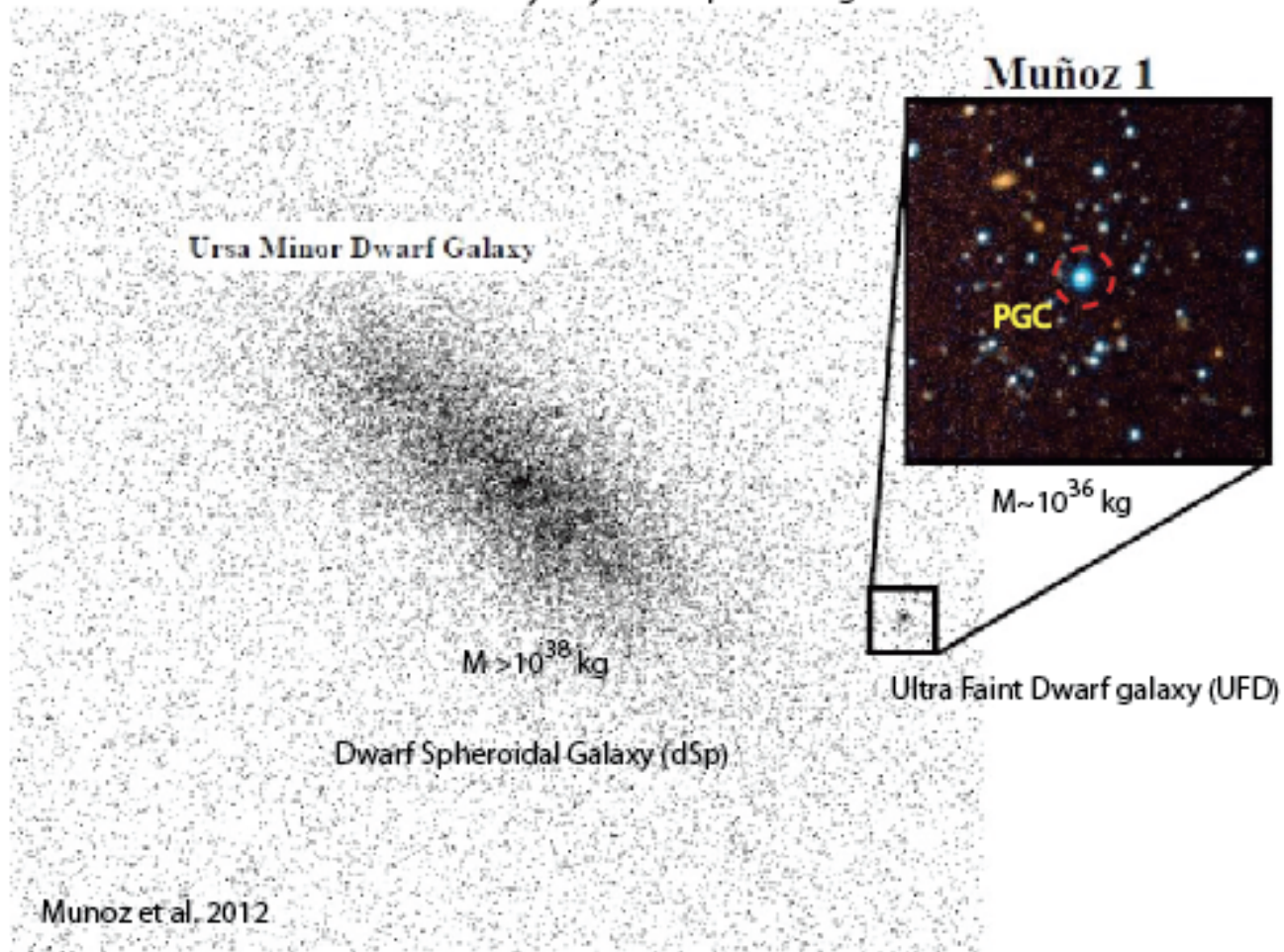


NGC 1049
Globular Cluster
in Fornax Dwarf



Ultra-Faint-Dwarf-galaxy (UFD) detected (a PGC)

Extremely dim (120 solar brightness) PGC coincidentally found speeding past one of the Milky Way dwarf Spheroidal galaxies

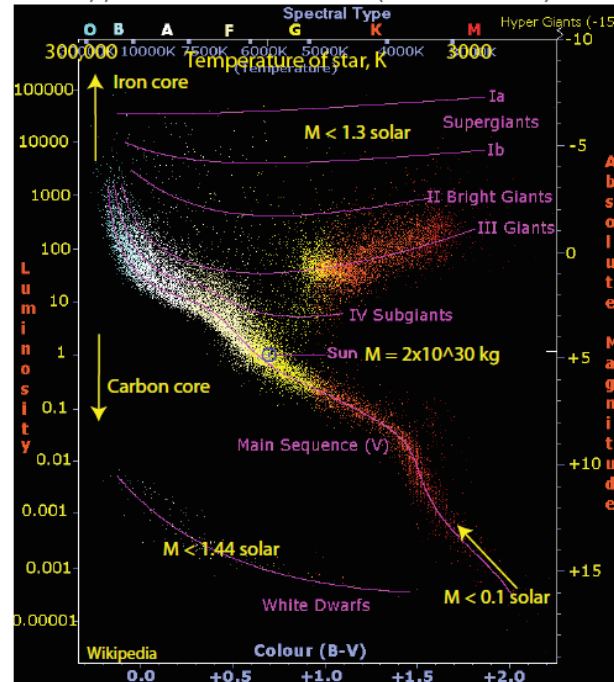


HR diagram for HGD

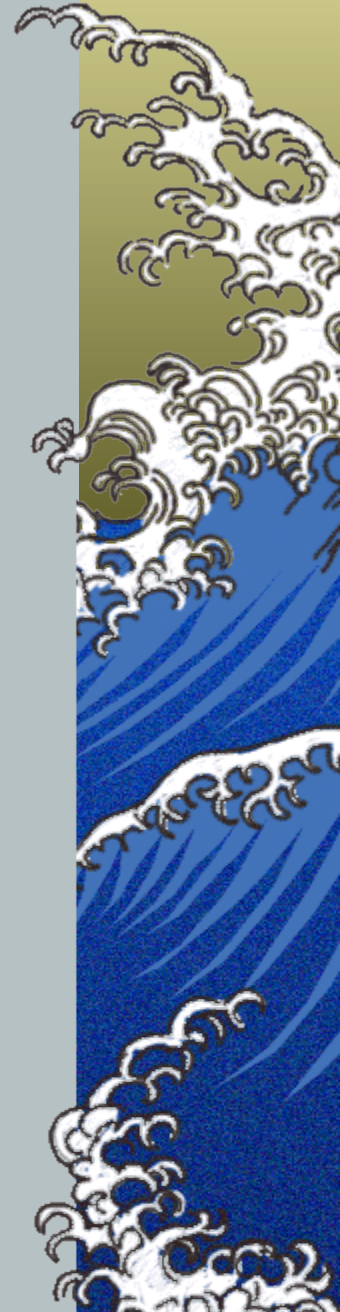
Hertzsprung-Russell diagram must be modified to take primordial dark matter planets into account:

1. star masses are overestimated
2. star lifetimes are underestimated

O,B,A star masses less than 1.3 solar (not 15 to > 50 solar)



From HGD cosmology, there are no massive stars with M > 1.44 Solar



Conclusions –new cosmology

1. *Hydro-Gravitational Dynamics (HGD) describes the gravitational structure formations of cosmology*
2. *The standard Λ CDMHC model is wrong and must be abandoned*
3. *Galaxy dark matter is primordial PFP planets in PGC clumps*
4. *No dark energy!*



Conclusions-natural fluids

- *Turbulence is driven by inertial-vortex forces*
- *Turbulence cascades from small scales to large*
- *Turbulence in **natural fluids** fossilizes at large scales*
- *Vertical and radial transport involves a complex interaction between turbulence, fossil turbulence, zombie turbulence, and zombie turbulence waves*
- *Intermittency effects cannot be neglected*
- ***Primordial planets hosted the formation of the first oceans and the first life in a biological big bang 2Myr to 8 Myr after the cosmological big bang.***

The End