

Astrophysics

**SPEED OF LIGHT EXCEEDED
AND DISTANCE LIMITED
IN REDSHIFT MEASUREMENTS**

Independent Science News
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c/o Physics Dept,
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C-PLUS

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LOLLO is a fresh new look at astrophysics. LOLLO thinking argues that the deceleration of light, not the expansion of space, is the cause of the large-scale (quantized) redshifts.

SPACE IS NOT EXPANDING!

A series of booklets sets forth the arguments for this proposal. Please read the CDK* series of booklets in this order:

- CDK 1 DSOL "The Decreasing Speed of Light"
- CDK 2 DCEL "Calculus (Don't Panic!) and the Deceleration of Light."
- CDK 3 DECAY "Speed of Light Decay....Timing is Everything"
- CDK 4 CALCS "Some Calculations of the Speed and Deceleration of Light"

These booklets and other booklets and papers are available on www.lollo.org.nz

They may also be sourced from the Physics Dept. at the University of Auckland, New Zealand.

"THE AGE OF LIGHT AND THE SHAPE OF THE UNIVERSE."

These were the very first of the LOLLO papers. (AGE and SHAPE). "Shape" gives a maximum distance of 1.5 billion light-years (b.l.y.) over which light can have travelled since deceleration began some 6224 years ago. (At 2006.)

* CDK = speed of light decay (slowing light speed)

This 1.5 b.l.y. distance is called the LOLLO DISTANCE.
LOLLO is short for the Limit Of Last Light Out.

Lollo argues that the redshifts have been caused by deceleration of light. And that ALL the deceleration has taken place over the Lollo distance.
THERE SHOULD THUS BE A LIMIT TO REDSHIFT OBSERVATIONS WITHIN THIS DISTANCE! (1.5 b.l.y.)

LOLLO, THE REDSHIFT LIMIT.

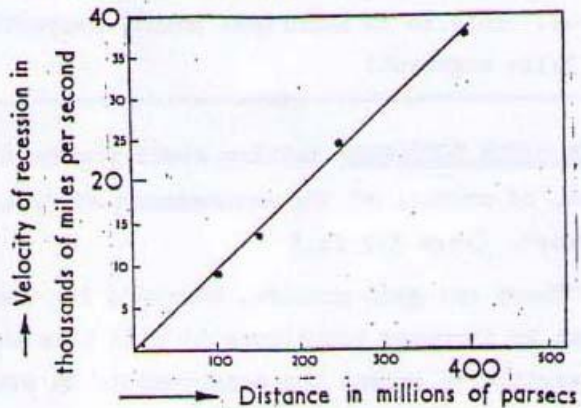
FRED HOYLE, in his book "Frontiers of Astronomy", gives a maximum distance for redshift discernment of..

1.37 billion light-years!!!

Let us examine the following points that Fred makes...

On page 312 of his book, Fred discusses redshifts. He explains that for "every increase of a million parsecs in the distance, the recessional speed increases by about 100 miles per second."

FRED PROVIDES a straight-line graph of "speed" versus distance on page 311 of "Frontiers.." (Fig. 64)



FRED SAYS; "The fastest rate of recession so far measured is close to 40,000 miles per second. Still more distant galaxies are so faint that it is difficult to measure their speeds because of a lack of light".

What distance does "close to 40,000 miles per second" of "recessional speed" represent?

"Frontiers..", in Plate 57, lists Hydra, at 400 million parsecs, as "receding" at 38,000 miles/sec.

So 40,000 miles/sec would represent a distance of:

$$\frac{40}{38} \times 400 \text{ million parsecs}$$

OR 1.37 billion light-years!

(1 parsec = 3.26 light-years)

PLEASE NOTE that this observed limit for redshift measurement is within the "lollo" limit of last light out. This is an important point, supportive of the lollo argument!

FRED HOYLE CONTINUES talking about the redshifts, in terms, of course, of the measurement of "recession speeds". (Page 312 Ib.)

"There are good grounds, however, for the hope that by improved techniques it will eventually prove possible to extend the measurements to still

more distant galaxies. If this becomes possible what will the result be? Almost I think without exception astronomers are prepared to predict that the rates of recession will continue to increase in accordance with the straight line of Fig 64. This straight line is taken to represent a fundamental feature of the Universe. It has been generally accepted that the line can be extended indefinitely to distances as great as we please. Whether or not this extrapolation is really justified is something that needs urgent confirmation, but unfortunately a complete verification up to speeds comparable with that of light itself is probably beyond the power of observation."

FRED IS WRITING in the mid 1950's. What has happened in the fifty years since then?

Well, redshifts greater than those representing 40,000 miles per second have been recorded.

In fact, redshifts representing far greater than light-speed have been claimed!

REDSHIFT "SPEEDS" ABOVE THAT OF LIGHT ITSELF!

It is supposed that very distant galaxies are speeding out at just on the speed of light! And it is reasoned that above light-speed, light can no longer come back to us from these fleeing galaxies.

So the greatest redshifts we could possibly measure, should be, to quote Fred, "up to speeds comparable with that of light itself".

Fred even suggests that such measurements may be "probably beyond the power of observation".

How then can astronomers, using Fred's "improved techniques" of redshift discernment, measure redshifts indicating TWICE light-speed and more? One excited scientist reported redshifts indicating some thirty times light-speed!

How can this be? And do greater redshifts than those indicating 1.37 b.l.y., Fred's OLD "redshift limit", mean greater and greater distance?

PLEASE CONSIDER THE GRAPH. (Opposite)

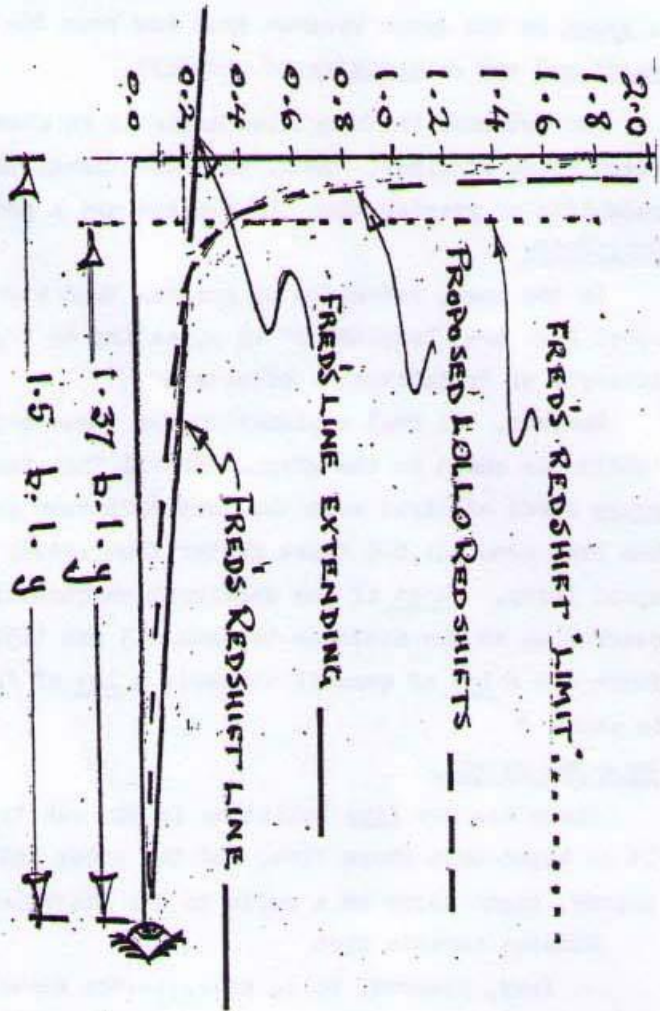
Fred's straight line of Figure 64 is shown extended past the old 1.37 b.l.y. "redshift limit". Fred's straight line cuts through this distance limit at a speed just over 0.2 times current light-speed, or Fred's 40,000 miles per second.

Of course, the galaxies are NOT "fleeing away"! The redshift is from deceleration of light. There has been a lot of deceleration over the past 6226 years!

DISTANCE

This deceleration is better represented by the curved, dashed line shown on the graph. This curved deceleration line follows Fred's straight line closely, from the eye up to the 1.37 b.l.y. distance. Then it rockets up, but always within the 1.5 b.l.y. distance. (The lollo distance.)

This means that greater redshift no longer means very much greater distance!!!



SPEED

Remember that redshift is only represented as a speed on the graph because that has been the conventional way of thinking of redshift.

Conventional thinking also holds to an absolute, fixed speed of light. Thus, to conventional thinking, redshifts of greater than light-speed are a problem!

RELATIVITY

In the past, redshifts of greater than light - speed have been "explained" by appealing to "relativity", or "relativistic effects".

However, the real explanation for these c-plus 'shifts is shown in the graph. Recall that the average speed of light over the last 6226years (at 2008) has been some 241,000 times faster than actual light-speed today. Most of the deceleration quantii were stacked up in the distance between 1.5 and 1.37 b.l.y. There are a lot of quantii stacked: a lot of "speed" to read! *

FROM THE EDITOR.

There are now five bulletins in the cdk trilogy! It is hoped that these five, and the other lollo papers, might serve as a guide to the Universe.

Kindest regards from

Inky, Sparrow, Bill, and.....the Editor.

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* See "The Mechanism of the Redshifts". (Website)