

# Confirmed: physical association between parent galaxies and quasar families

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In a paper just published<sup>1</sup> that looked for an association between putative parent galaxies and pairs of quasars,<sup>2-4</sup> the authors found many such quasar families, suggesting that the association is real, and not just coincidental. They used the Sloan Digital Sky Survey (SDSS) data release 7 and the 2MASS (Two Micron All Sky Survey) Redshift Survey (2MRS)  $K_s \leq 11.75$  mag data release to *test for the physical association of candidate companion quasars with putative parent galaxies* by virtue of Karlsson periodicity in quasar redshifts.

Karlsson proposed that quasars have an intrinsic non-cosmological redshift component which comes in discrete values ( $z_k = 0.060, 0.302, 0.598, 0.963, 1.410, \dots$ ). However, to properly detect any physical association, the candidate quasar redshift must be transformed into the rest frame of its putative parent galaxy's redshift. (This assumes either the parent galaxy redshift is cosmological or, if not, that it is Hubble law related but not due to expansion of the universe.) Then the transformed redshift of the candidate companion quasar is associated with the closest Karlsson redshift,  $z_k$ , so that the remaining redshift velocity component—the putative velocity of ejection away from the parent object—can be obtained. In this manner it is possible to detect a physical association, even in the case where parent galaxies have high redshift

values. If this process is neglected, no association may be found. Such was done in several papers, applied to large galaxy/quasar surveys, claiming to debunk the Arp hypothesis.

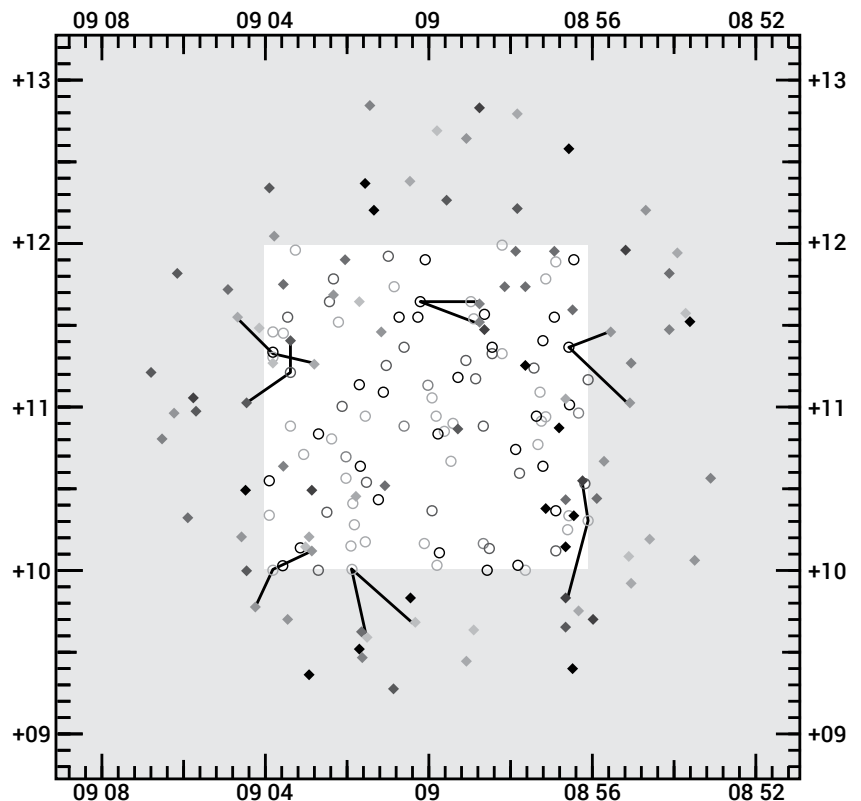
In this new paper, the authors used the method described above, and the detected correlation was demonstrated to be much higher than just a random association. Many such associations were found. As an example, in one instance, within one 4 degree area on the sky, seven quasar families were found to be statistically correlated with parent galaxies (figure 1). The probability of this occurring by random chance was calculated as follows:

“For a binomial distribution ... the probability of 7 hits for one 4 square degree area is ... =  $1.089 \times 10^{-9}$ . Under these conditions, the detection of 7 families with

this particular constraint set is *extraordinary* [emphasis added].”

Generally, the results of this paper are a confirmation of the quasar family detection algorithm described by Fulton and Arp,<sup>5</sup> which was used to analyze the 2dF Galaxy Redshift Survey (2dFGRS) and the 2dF Quasar Redshift Survey (2QZ) data sets. This means that using the SDSS and 2MRS data sets the correlation found in Fulton and Arp (2012) is further strengthened.

This means that to a very high probability, much higher than a random association, certain quasars are physically associated with lower redshift galaxies. The quasars are found in pairs or higher multiples of two. The results further imply that these quasar redshifts indicate a real ejection velocity component and a



**Figure 1.** Detected families in a 4 square degree area centred at 09h00m00s+11d00m00s. The open circles are galaxies, the filled diamonds are quasars, with lines connecting each galaxy to its detected quasar family members. The object shades indicate stepped redshift increase from light to dark over the redshift range  $0.0 \leq z \leq 5.5$ . The central unshaded area shows the galaxies under examination, and the entire area shows the candidate companion quasars.

large intrinsic non-velocity or non-cosmological redshift component.

The results described in this new paper<sup>1</sup> conclude that:

“... similarly, certain SDSS quasars are physically associated with lower redshift SDSS galaxies and separately with lower redshift 2MRS galaxies; at least some quasars of very different redshift are physically associated with the same nearby galaxy; with the available typed galaxy data, quasar families occur with approximately equal frequency around nearby ellipticals and lenticulars versus around nearby spirals and irregulars, and quasar families occur somewhat more frequently around nearby unbarred spirals than around nearby barred spirals.”

“When analyzed separately, the bright and faint quasars maintain high and comparable detection significance around both nearby and distant galaxies, suggesting that gravitational lensing is an unlikely physical explanation for the signal that we detect.”

“A quasar excess exists at Karlsson redshifts around the 2dF, SDSS, and 2MRS galaxies.”

## Conclusion

What does all this mean for biblical creation? Number one, it is strongly critical of the big bang hypothesis that all stars and galaxies result from the early big bang universe. This describes a scenario of quasars being ejected from active parent galaxies in a hierarchical process. If quasars are associated with parent galaxies, which have much smaller redshifts than the associated quasars, then that changes the whole story of the alleged evolution of the universe. Many quasars are more local than at enormous cosmological distances. That is, their large redshifts do not indicate a measure of distance. Again, this brings the standard big bang cosmology into conflict. How

do you explain this from a big bang perspective? From a biblical creation perspective it is straightforward: God created the galaxies on Day 4 of Creation Week using this hierarchical process, where quasars are ejected from the active hearts of their parents. And we are observing, now, the results of that process.

## References

1. Fulton, C.C., Arp, H.C., and Hartnett, J.G., Physical association and periodicity in quasar families with SDSS and 2MRS, *Astrophysics and Space Science* **363**:134, 2018.
2. Hartnett, J.G., Big-bang-defying giant of astronomy passes away, [creation.com/halton-arp-dies](http://creation.com/halton-arp-dies), 31 December 2013.
3. Hartnett, J.G., The heavens declare a different story! *J. Creation* **17**(2):94–97, 2003; [creation.com/the-heavens-declare-a-different-story](http://creation.com/the-heavens-declare-a-different-story).
4. Hartnett, J.G., Quantized quasar redshifts in a creationist cosmology, *J. Creation* **18**(2):105–113, 2004; [creation.com/images/pdfs/tj/j18\\_2/j18\\_2\\_105-113.pdf](http://creation.com/images/pdfs/tj/j18_2/j18_2_105-113.pdf).
5. Fulton, C.C. and Arp, H.C., The 2dF Redshift Survey. I. Physical association and periodicity in quasar families, *Astrophys. J.* **754**:134, 2012; [iopscience.iop.org/article/10.1088/0004-637X/754/2/134/meta](http://iopscience.iop.org/article/10.1088/0004-637X/754/2/134/meta).