

Grabby Aliens and The Power of Simulations to Robustly Estimate the Probability of Intelligent Life in the Universe

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The work from our own George Mason Professor, Dr. Robin Hanson, has been recently published in the *Astrophysical Journal* and I am very excited to feature it here.

“Grabby Aliens Explain Human Earliness, But Are Bad News for SETI”

Aliens are real - we actually have enough data to say that aliens really are out there, and to roughly estimate where (some kinds) are, what they are doing, and when we will see or meet them.

Evolution is so slow that human-level intelligence will probably never evolve on most habitable planets. If so, advanced life should be more likely to appear on longer-lived planets, and toward the end of their habitable periods. Yet in a universe where most planets last for trillions of years, we humans have appeared in less than 1% of that time. Why are we so surprisingly early?

Some have tried to explain this by suggesting that long-lived planets are not long habitable. However, a new paper instead explains human earliness via a selection effect. “Grabby” aliens have long been out there, expanding fast and changing the appearance of their volumes. Within a few billion years they will “grab” all of the universe, and then suppress competitors. This sets a deadline; we could not have appeared much later than we did. Which is why we are early.

This new math sim paper is an example of “gig science”, having been written by an unfunded team of non-astronomers, four strangers who united in response to a tweet request last December. It has recently been peer-reviewed and accepted for publication in the prestigious *Astrophysical Journal*.

Not only does human earliness suggest that these grabby aliens are actually out there, these authors fit a simple three-parameter model of the spacetime distribution of grabby aliens to three key datums, to tell us roughly where they are, what they are doing, and when we could meet or see them. These three key datums are: (1) our current date, (2) the fact that we don’t now see grabby aliens in our sky, and (3) the timing of key events in Earth’s evolutionary history. This model fit says that grabby aliens appear roughly once per million galaxies, that they expand at over half the speed of light, and that we could meet them in roughly a billion years.

We humans are now quiet, not grabby. The fewer other quiet civilizations are out there, relative to grabby ones, then the higher must be our future chances to get grabby, but the harder it will be to find aliens near us. For example, this quiet-to-grabby ratio needs to be over ten thousand to expect that even one quiet civilization has ever been active in our galaxy, and over ten million to expect that million-year-lifetime quiet aliens are active now in our galaxy. Overall, this looks bad for the search for extraterrestrial intelligence (SETI).

“If Loud Aliens Explain Human Earliness, Quiet Aliens Are Also Rare” Robin Hanson (rhanson@gmu.edu), Daniel Martin, Calvin McCarter, Jonathan Paulson

<https://arxiv.org/abs/2102.01522>

<http://grabbyaliens.com>

