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ENERGY-INTENSIVE CIVILISATIONS AND THEIR IMPRINT ON ASTRONOMICAL DATA

Abstract

Energy-intensive civilisations are likely to have a significant impact on both their local and extended environments – we already see evidence for this here on Earth. Advanced technical civilisations may reveal themselves to other civilisations by introducing anomalous signatures into astronomical data. Artificial radio signals are perhaps the best known example of these "techno-signatures" but there are also many other possibilities. I will present a non-exhaustive description of some of the main anomalies that astronomers around the world are currently seeking, and will discuss how long-baseline interferometry can play a major role in the follow-up observations of the Breakthrough Listen candidates. I will also argue that astronomers need to broaden their horizons - to open up to new possibilities and concede that there is a lot about the Universe we do not understand. As the universe continues to evolve for billions of years to come, we speculate on whether other, non-biological forms of intelligence and consciousness, may be out there awaiting discovery.