

## Monte Carlo estimation of the probability of causal contacts between communicating civilizations

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### RESUMEN

In this work we address the problem of estimating the probabilities of causal contacts between civilizations in the Galaxy. We make no assumptions regarding the origin and evolution of intelligent life. We simply assume a network of causally connected nodes. These nodes refer somehow to intelligent agents with the capacity of receiving and emitting electromagnetic signals. Here we present a three-parametric statistical Monte Carlo model of the network in a simplified sketch of the Galaxy. Our goal, using Monte Carlo simulations, is to explore the parameter space and analyse the probabilities of causal contacts. We find that the odds to make a contact over decades of monitoring are low for most models, except for those of a galaxy densely populated with long-standing civilizations. We also find that the probability of causal contacts increases with the lifetime of civilizations more significantly than with the number of active civilizations. We show that the maximum probability of making a contact occurs when a civilization discovers the required communication technology.

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