Paper ID: 70857
oral

51st IAA SYMPOSIUM ON THE SEARCH FOR EXTRATERRESTRIAL INTELLIGENCE (SETI) – The Next Steps (A4)
SETI 2: SETI and Society (2)

Author: Prof. Teófilo Vargas
Universidad Nacional Mayor de San Marcos, Peru

Dr. Paolo Musso
University of Insubria, Italy
Dr. Nicolò Antonietti
INAF - IRA, Italy

NUMERICAL UNCERTAINTY PROPAGATION TO THE NUMBER OF POSSIBLE GALACTIC HABITABLE ISLANDS IN THE MILKY WAY

Abstract

The model to calculate the average age of potential intelligent life in the Milky Way, that we presented at the IAC 2021, depends on different inputs, like gas surface density, star total mass, initial mass function, supernovae explosions and metallicity.

The value of each inputs come with an uncertainty due to the amount of different measurements and their complexity. Those uncertainties can be propagated to estimate the uncertainty on the average age of potential intelligent life in the Milky Way; it will thus be possible to tell the inputs that mostly contribute to the final uncertainty and what measurement must be refined first to obtain a more precise estimate.

In addition, the model will be integrated to take into account a variance with respect to a 2D radial symmetric model.