

Instituto de Astronomía  
Universidad Nacional Autónoma de México  
Sede Ensenada, Baja California, México

# Seminario de Investigación

*Miércoles, 11 de Septiembre de 2013*

**11:00 hrs, Auditorio IA-Ensenada**

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*(IA-UNAM, Ensenada)*

## **“SPACE TO LIVE: STABLE AND HABITABLE ZONES AROUND STELLAR BINARY SYSTEMS.”**



We determine dynamically stable regions around binary systems, where a planet can form and/or survive indefinitely, as long as the binary system parameters do not change. We apply our formalism to 161 binary star systems in the solar neighborhood with known orbital parameters, and make predictions for each of them. In the case of the 5 binary systems with known planets, all of them fall within our predicted stable zones.

We then extend the classical definition of habitable zone around single stars based on the radiative stellar flux on the planet, to the case of binary systems. The simple radiative criterion results in 3 different cases: circumstellar, circumbinary and a combination of both. Again, we make predictions for the extent of the habitable zones in our sample of nearby binary systems.

Our study intends to provide a guide in the search of planets around binary systems, particularly those that may be suitable to become abodes for life.