



**INSTITUTO DE FÍSICA
“Luis Rivera Terrazas”**



SEMINARIO

“DR. JESUS REYES CORONA”

“Dephasing-assisted transport in a linear array of quantum dots”

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Instituto de Física de la UNAM**

It is well known that environmental noise usually hinders the efficiency of charge transport through coherent quantum systems; an exception is dephasing-assisted transport (DAT). In this talk I will show that a linear triple quantum dot (TQD) in a transport configuration and subjected to pure dephasing exhibits DAT if the coupling to the drain reservoir exceeds a threshold. DAT occurs for arbitrarily weak dephasing and the enhancement can be controlled by tuning the coupling to a drain reservoir. The quantum Zeno effect and long-distance tunneling of charge are identified as underlying dynamic processes involved in dephasing-assisted and -suppressed transport. At the end of the talk I will briefly mention an experimental procedure suggested for detecting dephasing-assisted currents in the linear TQD.

Auditorio-IFUAP

Viernes 22 de Abril de 2016

13:00 Hrs.