

## VII Leopoldo García-Colín Mexican Meeting on Mathematical and Experimental Physics



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### **ÁNGEL MARTÍNEZ: Transport studies in three-terminal microwave graphs with orthogonal, unitary, and symplectic symmetry**

*Thursday, 20 February 2020 16:00 (30 minutes)*

The Landauer-Büttiker formalism establishes an equivalence between the electrical conduction through a device, e.g., a quantum dot, and the transmission. Guided by this analogy we perform transmission measurements through three-port microwave graphs with orthogonal, unitary, and symplectic symmetry, thus mimicking three-terminal voltage drop devices. One of the ports is placed as input and a second one as output, while a third port is used as a probe. Analytical predictions show good agreement with the measurements in the presence of orthogonal and unitary symmetries, provided that the absorption and the influence of the coupling port are taken into account. The symplectic symmetry is realized in specifically designed graphs mimicking spin-1/2 systems. Again a good agreement between experiment and theory is found. For the symplectic case the results are marginally sensitive to absorption and coupling strength of the port, in contrast to the orthogonal and unitary case.

**Session Classification:** SHORT TALKS

**Track Classification:** SYMPOSIUM ON SCATTERING, QUANTUM AND CLASSICAL TRANSPORT