

The School of Natural Sciences
Presents
Undergraduate Physics Research Symposium, Session II
Graduating seniors from the physics program

Friday, May 6, 2022
10:00 – 12:00 in SSB 120
and remotely via

<https://ucmerced.zoom.us/j/82652263820?pwd=RmgYeXh2aFVZTDdkb0Y4d3Q2WEc3QT09&from=addon>

Talk times are approximate.

10:00-10:12

Towards practical models for correcting artificial symmetry breaking in cases with more than one spin-contaminant

Jonathan Loera, Jorge Vasquez, Hrant Hratchian

10:13-10:25

Bacterial motility across a gradient of Newtonian and non-Newtonian fluids

Radoslav Iliev, Bin Liu

10:26-10:38

Photon entanglement using four-wave mixing in a MUX filtered system

Adrian Sanchez Magana, Jay Sharping

10:39-10:51

Geometry, electronic structure, and magneto-anisotropy energy of WS_2 with a Cobalt-at-Sulfur-site substitutional defect

Nolan Kelly, David Strubbe

10:52-11:04

N-loop model for magnetic response of a neodymium magnet in a coaxial stub cavity

Demitrius Zulevic, Jay Sharping

11:05-11:17

Lubricants for outer space instruments: Frictional mechanisms in Ni-doped MoS_2

Elsa Vazquez, Enrique Guerrero, and David A. Strubbe

11:18-11:30

Neutron radiation study of perovskite solar cells for space application

Calista Lum, Sayantani Ghosh

11:31-11:43

Variation in the resonance radii of Anthe, Methone, and Aegaeon

Karla Leon-Aguilar, Maryame El Moutamid (Cornell University), Phillip Nicholson (Cornell University), Anna Nierenberg (UCM)

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