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## **High Energy Physics Lunch Seminar**

## Kimmy Wu

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"Testing inflation with the BICEP/Keck Array and South Pole Telescope"

Host: Martina Gerbino

April 30, 2019 – 12:00 p.m.-1:00p.m. Building 362/F-108

## Abstract:

Inflation generically predicts a background of primordial gravitational waves, which generate a primordial B-mode component in the polarization of the cosmic microwave background (CMB). The measurement of such a B-mode signature would lend significant support to the paradigm of inflation. Observed B modes also contain a component from the gravitational lensing of primordial E modes, which can obscure the measurement of the primordial B modes. We reduce the sample variance in the B-mode spectrum contributed from this lensing component by a technique called 'delensing.' In this talk, I will give an update on the current delensing effort on the BICEP/Keck data, using data also from the South Pole Telescope and the Planck satellite. This analysis will reduce the uncertainty on the constraint of the primordial gravitational waves, parameterized through the tensor-to-scalar ratio r. I will also provide an outlook on constraining r with data from upcoming experiments BICEP3, BICEP Array, and SPT-3G through delensing.

## **HEP Lunch seminar info:**

Please use the doodle poll to sign-up for lunch at https://doodle.com/poll/zd9sspzqkkyykp79

Chicken Sandwich \$8, Sub Sandwich \$9, Salad \$7, Slice of Pizza- \$5 (all include coffee). Coffee 25¢. Pop or Water 75¢.

The HEP Lunch Seminar Schedule can be viewed at: https://indico.fnal.gov/event/20067/