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ICTS MONTHLY COLLOQUIUM

Neutrinos in cosmology: A match made in the heaven

The standard hot Big Bang model predicts a background of neutrinos permeating all space. At an average of 330 neutrino per cubic centimetre, the relic neutrinos are the most abundant known particles in the universe. However, unlike its better-known cousin, the cosmic microwave background, the direct detection of this relic neutrino background has so far eluded us. Nonetheless, because of the sheer enormity of their collective gravitational forces, these relic neutrinos have a strong impact on the many phases of the universe's evolution. In this talk I will discuss some of the ways in which neutrinos influence the evolution of the universe on the largest scales, and how we can use this understanding in combination with cosmological observations to learn about neutrino physics in the early universe



Yvonne Wong

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Yvonne Wong is a theoretical physicist working at the interface of particle physics and cosmology. Her research primarily concerns using observations of the Universe to probe fundamental physics. Yvonne Wong obtained her BSc (Hons) and PhD in Theoretical Physics from the University of Melbourne, Australia, in 1998 and 2001 respectively. After several postdoctoral positions in the US and Europe, including at DESY (Hamburg), Max Planck Institute for Physics (Munich), and CERN (Geneva), she was named Junior Professor at RWTH Aachen, Germany in 2009. She returned to Australia in 2013 and is currently an Associate Professor at the University of New South Wales, Sydney.

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