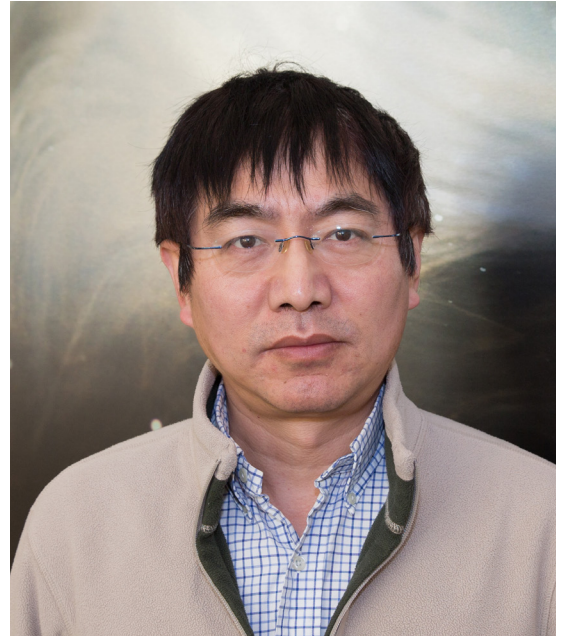


PHYSICS AND ASTRONOMY COLLOQUIUM

Lifan Wang, Ph.D.
Texas A&M University

The New Frontier Into the Dark Age:
z Equals Twenty from Antarctica (zETA)

A critical epoch in the history of structure formation in the universe is at redshift around 20, when the universe formed its first generation of compact objects (stars/black holes/galaxies). The ultraviolet photons from these compact objects subsequently led to the reionization of the universe. At such extreme distance as $z \sim 20$, most known astronomical objects are too faint even for the space-based James Web Space Telescope (JWST) and the ground-based extremely large telescopes of the next decade. The first generation massive stars at $z \sim 20$ may produce super-luminous supernovae that are bright enough for JWST, but these supernovae will have to be discovered by a deep wide-field infrared survey. The z Equals Twenty from Antarctica (zETA) program aims to acquire near-infrared sky surveys down to a level that enables discovery of $z \sim 20$ supernovae. zETA is a program endorsed by the working group Astronomy and Astrophysics from Antarctica (AAA) of Scientific Committee on Antarctica Research (SCAR).



TUESDAY, SEPTEMBER 30, 2014 | 4:00 PM | HAWKING AUDITORIUM



PHYSICS & ASTRONOMY
TEXAS A&M UNIVERSITY