

W. LINDA XU

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EDUCATION

- Harvard University** 2015 -
Candidate for Ph.D. in Physics
- Massachusetts Institute of Technology** 2011 - 2015
BS in Physics, Minor in Astronomy, Minor in Music

RESEARCH EXPERIENCE

- Harvard University** Feb 2016 –Present
CENTER FOR FUDAMENTAL LAWS OF NATURE – RANDALL GROUP
Graduate Research Assistant Cambridge, MA
· Searching for evidence of partially interacting dark matter in local group dwarf spheroidals
- Harvard University** Oct 2015 –Present
CENTER FOR FUDAMENTAL LAWS OF NATURE – DVORKIN GROUP
Graduate Research Assistant Cambridge, MA
· Constraining dark matter-baryon scattering from CMB & large-scale structure
· MCMC analysis of changes in the BAO induced by isocurvature perturbations
- Massachusetts Institute of Technology** Sep 2014 –Jun 2015
MIT KAVLI INSTITUTE FOR ASTROPHYSICS – FREBEL GROUP
Undergraduate Research Assistant Cambridge, MA
· Chemical abundances and kinematic properties of galactic halo metal-poor stars
- University of Vermont** Jun 2014 – Aug 2014
COMPLEX MATERIALS SUMMER REU – CLOUGHERTY GROUP
Undergraduate Research Assistant Burlington, VT
· Investigating bound-state energy shifts of oblique ultracold atom-surface interactions
- Massachusetts Institute of Technology** Jun 2012 – Jan 2014
MIT KAVLI INSTITUTE FOR ASTROPHYSICS – SCHECHTER GROUP
Undergraduate Research Assistant Cambridge, MA
· A HOLICs method for second-order weak gravitational lensing (flexion) in 4000 nearby galaxies
- Massachusetts Institute of Technology** Sep 2013 – Jan 2014
LABATORY FOR NUCLEAR SCIENCE, CMS COLLABORATION – KLUTE GROUP
Undergraduate Research Assistant Cambridge, MA
· Delphes simulations of Higgs self-coupling constant in $HH \rightarrow WWWW$ decays

TEACHING AND OUTREACH EXPERIENCE

- Cambridgeport Elementary School** Jan 2016 – Jun 2016
CRAZY EIGHTS AFTER-SCHOOL MATH PROGRAM
Outreach Mentor Cambridge, MA
- Summer Science Program** Jun 2015 – Aug 2015
OBSERVATIONAL ASTRONOMY & ORBIT MECHANICS PROGRAM FOR HIGH SCHOOL JUNIORS
Teaching Assistant and Residential Mentor Socorro, MA
- WBG Internationals** Sep 2014 – Jun 2015
Consultant for High School student research Cambridge, MA
- Massachusetts Institute of Technology** Jan 2012 – Jan 2013
DEPARTMENT OF PHYSICS, DEPARTMENT OF MATHEMATICS
Student Grader and Tutor Cambridge, MA

OTHER EXPERIENCE

Air Spora Trapping and Recovery Operation

NASA HIGH ALTITUDE STUDENT PAYLOAD

Payload Engineer

Jan 2013 – Sep 2013

Cambridge, MA

- Structural design and machining for a spore-collection payload. Launched September 2, 2013

SLAC National Accelerator Laboratory

Student Intern

July 2013 – Aug 2013

Palo Alto, CA

- Non-linear behavior of RF amplifiers in modeling e-cloud instability in the Super Proton Synchrotron

TECHNICAL KNOWLEDGE

Programming Languages	C++, JAVA, IDL, Python, Scheme, Fortran
Analysis Tools	MATLAB, Mathematica, ROOT, R, IRAF, Maxim DL CosmoMC/MontePython, CAMB/CLASS

ACTIVITIES

URGE	Biweekly reading group discussion of current physics & materials science papers
DRP	Directed reading mentorship with a graduate student on topological manifolds
MIT ESP	Interest-based educational outreach program for high-school students
Shakespeare Ensemble	MIT theatre group focused on Shakespeare productions
MIT Concert Choir	Audition group for large-scale choral literature

ACADEMIC WRITINGS [HYPERLINKS IN TITLES]

Condensed Matter Theory	Research Writeup from the UVM Complex Materials REU; study of axial-symmetry-breaking in ultracold atom-surface interactions.
Particle Theory	Study on deep inelastic scattering and the Parton model
Experimental Optics	On quantum entanglement and CHSH inequalities
Mathematics	A topological derivation for the Maxwell Equations
Astronomy	An observational project on variable stars