



Curriculum Vitae Hossein Mos'hafi

PH.D. IN PHYSICS · COSMOLOGIST

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Personal

Born: 1986-07-15

Birth Place: TEHRAN-IRAN

Sex: MALE

Marital Status: SINGLE

Address: IBN SINA COMPLEX LAB, DEPARTMENT OF PHYSICS, SHAHID BEHESHTI UNIVERSITY, G.C., EVIN, TEHRAN 19839, IRAN

Education

IASBS (Institute for Advanced Studies in Basic Sciences)

Zanjan, IRAN

PH.D. IN PHYSICS, COSMOLOGY

2011 - 2017

» **Thesis:** Cosmological structure formation: an approach for investigating dark energy, dark matter and inflation

SBU (Shahid Beheshti University)

Tehran, IRAN

M.Sc. IN PHYSICS, COSMOLOGY

2008 - 2011

» **Thesis:** Analysis of Cosmic Microwave Background Radiation Anisotropies

SUT (Sharif University of Technology)

Tehran, IRAN

B.Sc. IN PHYSICS

2004 - 2008

Skills

Programming Python, Fortran, C/C++, LaTeX

Web WordPress, HTML

Scientific Codes CosmoMC, CAMB, CosmoLib, HEALPix, GLESP, CMBEASY, CLASS, Gadget 2., Zeno

Scientific Softwares Wolfram Mathematica, Maple, MATLAB, GNUplot, Grace, Octave, ...

Graphics Editor Adobe Photoshop, Corel Draw, Gimp, ScreenFlow, ...

Office Softwares LibreOffice, iWork, Microsoft office, ...

Languages English, Persian, Arabic, Azarbijani, Turkish

Languages

ENGLISH: READING ★★★★★
LISTENING ★★★★★☆
SPEAKING ★★★★★☆

PERSIAN: READING ★★★★★
LISTENING ★★★★★
SPEAKING ★★★★★

Operating System

GNU/LINUX: ★★★★★

MACOS: ★★★★★

WINDOWS: ★★★★★

Experience

Instructor*Winter 2014*

- » "Astrophysics", for M.Sc. students at Sufi university

Instructor*Winter 2013*

- » "Galactic Dynamics", for high school students.

Instructor*Winter 2013*

- » "Modern Astrophysics", for high school students.

Instructor*Fall 2012*

- » "Introduction to Cosmology", for high school students.

Teaching Assistant*Spring 2012*

- » "Astrophysics II", Dr. Haghi, Physics Dept. IASBS.

Research Assistant*2008-2011*

- » Under the supervision of Prof. Movahed, Physics Dept. SBU and IPM.

Teaching Assistant*Fall & Spring 2010*

- » "Fundamentals of Physics II", Prof. Movahed, Physics Dept. SBU.

Teaching Assistant*Fall & Spring 2009*

- » "Thermodynamics", Prof. Seyed Allaei, Physics Dept. SBU.

Teaching Assistant*Fall 2008*

- » "Fundamentals of Physics I", Prof. Seyed Allaei, Physics Dept. SBU.

Scientific & Administrative Activity*Spring 2013*

- » Member of Local Organization Committee of 17th Meeting on Research in Astronomy, Zanjan, IRAN.

Scientific & Administrative Activity*Spring 2012*

- » Manager of Local Organization Committee of 16th Meeting on Research in Astronomy, Zanjan, IRAN.

Scientific & Administrative Activity*Summer 2010*

- » Member of scientific committee in 18th annual high school students' conference of Physics.

Scientific & Administrative Activity*2009 - 2011*

- » Member of national scientific committee of Astronomy and Astrophysics Olympiad in IRAN.

Scientific & Administrative Activity*Summer 2009*

- » Member of Organization Committee of 17th Physics student meeting, PSI, Bonab, IRAN.

Scientific & Administrative Activity*2009*

- » Referee of articles in 17th annual high school students' conference of Physics.

Scientific & Administrative Activity

2006 - 2007

- » Editor in chief of Takaneh Magazine (Scientific Magazine of Physics students at Sharif University of Technology) and member of editors group.

Workshop & Conferences

Workshop

LECTURER

- » Introduction to Cosmological Codes (CAMB, CosmoMC), SBU, Tehran, IRAN.

IRAN

Spring 2018

Workshop

LECTURER

- » Introduction to Cosmological Monte Carlo (CosmoMC), SUT, Tehran, IRAN.

IRAN

Winter 2018

School

- » "Tehran meeting on Modified Gravity", IPM, Tehran, IRAN.

IRAN

Winter 2016

School

- » "Summer School on Cosmology", ICTP, Trieste, ITALY.

ITALY

Summer 2016

School

- » School of "Advanced Cosmology", Shahid Beheshti University, Tehran, IRAN.

IRAN

Fall 2013

School

- » School of "N-body Gravitational Dynamical Systems", IHP, Paris, France.

FRANCE

Fall 2013

Workshop

- » Workshop of "Origin of Cosmic Structures: numerical and theoretical approach", IHP, Paris, France.

FRANCE

Fall 2013

School

- » 20th Spring School of Physics, IPM, Tehran, IRAN.

IRAN

Spring 2013

Conference

- » National conference of Gravitation and Cosmology (NGC), Shahid Beheshti University, IRAN.

IRAN

Winter 2013

School

- » Summer School on Cosmology, ICTP, Trieste, ITALY.

ITALY

Summer 2012

Workshop

- » Workshop on Large Scale Structure, ICTP, Trieste, ITALY.

ITALY

Summer 2012

Workshop

- » Workshop on Large Scale Structure, ICTP, Trieste, ITALY.

ITALY

Summer 2012

School

- » 19th Spring School of Physics, IPM, Tehran, IRAN.

IRAN

Spring 2012

Conference

IRAN
Winter 2012

- » National conference of Gravitation and Cosmology (NGC), Tehran University, IRAN.

Workshop

IRAN
Fall 2012

- » 4th Workshop on High Performance and Grid Computing (HPC4), IPM, Tehran, IRAN.

Conference

IRAN
Winter 2011

- » National conference of Gravitation and Cosmology (NGC), Sharif University of Technology, Tehran, IRAN.

Conference

IRAN
Summer 2010

- » National conference of Physics, Bu Ali Sina University, Hamedan, IRAN.

Conference

IRAN
Winter 2010

- » National conference of Gravitation and Cosmology (NGC), Shahid Beheshti University, Tehran, IRAN.

Publications

- » B. Mostaghel, H. Moshafi, S.M.S. Movahed, "The Integrated Sachs-Wolfe Effect in the Bulk-Viscous Dark Energy model", submitted to MNRAS.
- » B. Mostaghel, H. Moshafi, S.M.S. Movahed, "Non-minimal Derivative Coupling Scalar Field as a Bulk-Viscous Dark Energy", arXiv:1611.08196 [astro-ph.CO], Eur. Phys. J. C **77**, no. 8, 541 (2017)
- » N. Mirzatumy, S. Khosravi, S. Baghran, & H. Moshafi, "Simultaneous effect of Modified Gravity and Primordial Non-Gaussianity in Large Scale Structure Observations", JCAP01(2014)019
- » B. Mostaghel, H. Moshafi, S.M.S. Movahed, "Viscous Dark Energy: A Proposal to Resolve the Tension Between Planck and Red-shift Space Distortion", accepted paper in National Physics Conference, Iran, Summer 2017.
- » B. Mostaghel, H. Moshafi, S.M.S. Movahed, "Footprints of Interaction of Viscous Dark Energy and Dark Matter on the Expansion History of the Universe", accepted paper in National Conference of Gravitation and Cosmology, Winter 2016, SBU, Iran.
- » H. Moshafi, A. Vafaei Sadr, S.M.S. Movahed, H. Haghi, "Two-point correlation function of Peaks in Planck data: Hemispherical Asymmetry", accepted paper in National Conference of Gravitation and Cosmology, Winter 2015, SUT, Iran.
- » H. Moshafi, S.M.S. Movahed, M. Zarei, "Search for local kink in the CMB power spectrum", poster presentation in Summer School on Cosmology at ICTP, Summer 2012, Trieste, Italy.
- » H. Moshafi, M. Zarei, & M. Sadegh Movahed, "Local features in CMB power spectrum", accepted paper in National Conference of Gravitation and Cosmology, Winter 2013, Iran.
- » M. Sadegh Movahed, B. Javanmardi, & H. Moshafi, "Cosmic string detection using peak - peak correlation function in CMB map", accepted paper in National Physics Conference, Iran, Summer 2011.
- » M. Sadegh Movahed, B. Javanmardi, & H. Moshafi, "Two-point correlation function of peaks in the cosmic microwave background radiation", accepted paper in 15th meeting on Research Astronomy, Zanjan, Iran, 2011.
- » H. Moshafi, M. Sadegh Movahed, & A. Sojasi, "Statistical Properties of Deviation of Inflaton from Quantum Thermal Vacuum", accepted paper in National Conference of Gravitation and Cosmology, Winter 2011, Iran.

- » H. Moshafi & M. Sadegh Movahed, "Footprint of Power-law Quintessence model on the Last Scattering Surface fluctuations, Large Scale Structure formation and evolution of the Universe", accepted paper in National Physics Conference, Iran, Summer 2010.
- » H. Moshafi & M. Sadegh Movahed, "The Power Spectrum of CMB Radiation in the Power Law Model of Dark Energy", accepted paper in National Conference of Gravitation and Cosmology, Winter 2010, Iran.
- » H. Moshafi, "Cosmic Microwave Background Radiation, an accurate map of the Cosmos", Quanta Magazine (Scientific Magazine of Physics students at Shahid Beheshti University), Spring 2010.

Research Interests

Non-Gaussianity effects on the CMB and LSS.

- » I'm interested in studying models with NG effects and their signatures on the Cosmic Microwave Background Radiation and Large Scale Structures. As cosmological surveys such as Planck satellite or SDSS develop we could find more robust constraints on the NG and inflationary models.

Dark Energy models

- » Investigation of DE models with perturbation in their fluid and varying equation of state is one of my important interests. Analyzing DE models with CMB data and LSS data and finding their features is very interesting for me.

Inflation and Early Universe

- » Research on the Physics of early Universe and Inflationary scenarios is my another interest. I studied some papers about non-Gaussianity effects from inflationary theories on the CMB and I would like in this field.

Astrophysics

- » I'm interested in studying astrophysical phenomena including black holes, evolution of stars and fate of stars.