

# Curriculum Vitae

Name: Ming Sun

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## **Education and Positions:**

2018 - : Associate Professor, Department of Physics & Astronomy, UAH  
2014 - 2018: Assistant Professor, Department of Physics & Astronomy, UAH  
2012 - 2013: Scientist VI, Eureka Scientific  
2011 - 2012: Research scientist, University of Virginia  
2008 - 2011: Research associate, University of Virginia  
2005 - 2008: Research associate, Michigan State University  
2005: Ph.D., Astronomy, Department of Astronomy, Harvard University, MA, USA

## **Research interest:**

Galaxy clusters and groups; Cosmology; Galaxy formation and evolution; X-ray astronomy; Radio galaxies; AGN feedback; Data mining; Supernova and Supernova remnant

## **Teaching:**

2014 — present: AST 106, AST 107, AST 371, AST 471 / PH 571, PH 499, PH 789, PH 792

## **Publications and Citations (to May 10, 2019):**

- 95+ peer-reviewed papers (21 as the first author, another 22 as the corresponding author), mainly on ApJ and MNRAS
- over 5100 citations (Google Scholar), including over 2100 citations to the first-author papers (h-index: 39).

## **Selected Publications** (led by Sun, or his postdocs, or his students):

- Ge, C., Liu, R., **Sun, M.** et al., “Chandra and XMM-Newton observations of A2256: cold fronts, merger shocks, and constraint on the IC emission”, *MNRAS*, 497, 4704 (2020)
- Chen, H., **Sun, M.** et al., “The ram pressure stripped radio tails of galaxies in the Coma cluster”, *MNRAS*, 496, 4654 (2020)
- Liu, W., **Sun, M.** et al., “AGN feedback in the FR II galaxy 3C 220.1”, *MNRAS*, 492, 3156 (2020)
- Ge, C., **Sun, M.** et al., “A merger shock in Abell 1367”, *MNRAS*, 486, L36 (2019)
- Liu, W., **Sun, M.** et al., “AGN feedback in galaxy group 3C 88: cavities, shock, and jet reorientation”, *MNRAS*, 484, 3376 (2019)
- Ge, C., **Sun, M.** et al., “X-ray scaling relations from a complete sample of the richest maxBCG clusters”, *MNRAS*, 484, 1946 (2019)
- Dasadia, S., **Sun, M.** et al., “A strong merger shock in Abell 665”, *ApJ*, 820, L20, (2016)
- Morandi, A., & **Sun, M.**, “Probing dark energy via galaxy cluster outskirts”, *MNRAS*, 457, 3266, (2016)
- Morandi, A., **Sun, M.**, Forman, W., Jones, C., “The galaxy cluster outskirts probed by *Chandra*”, *MNRAS*, 450, 2261, (2015)

- **Sun, M.**, “Hot gas in galaxy groups: recent observations”, *New Journal of Physics*, Volume 14, Issue 4, article id. 045004, (2012) (an invited review)
- **Sun, M.**, “Every BCG with a Strong Radio AGN has an X-Ray Cool Core: Is the Cool Core-Noncool Core Dichotomy Too Simple?”, *ApJ*, 704, 1586, (2009)
- **Sun, M.** et al., “*Chandra* studies of the X-ray gas properties of galaxy groups”, *ApJ*, 693, 1142, (2009)
- **Sun, M.**, Jones, C., Forman, W., Vikhlinin, A., Donahue, M., Voit, G. M., “X-ray thermal coronae of galaxies in hot clusters — ubiquity of embedded mini cooling cores”, *ApJ*, 657, 197, (2007)

### **Approved PI proposals:**

- Total PI grant over the last 13 years: \$2.9M (\$2.0M to the UAH)
- Awarded observing time as the PI: over 500 hr with *Chandra* + over 450 hours with *XMM-Newton* + 22 orbits (or 33 hr) of *HST* + 33 nights of optical time with *CTIO*, *Gemini* south, *Magellan*, *FLWO*, *SOAR* and *APO* + 310 hr of radio data with *ATCA*, *GMRT*, *EVLA*, *Mopra*, *IRAM 30m*, *NOEMA* and *ALMA*.

### **Invited and contributed Talks:**

- 33 invited talks from 2008, including COSPAR, *Chandra*, Stanford, UMN, Harvard CfA, UMass and NOAO
- 2008 - 2020: 20 talks in UIUC, UVa, NRAO, Harvard, University of Michigan, Max Planck Institute for Extraterrestrial Physics, Columbia, UCSB, Yale, UAH and seven conferences
- Prior to 2008: 13 talks in Harvard, Michigan State University, University of Michigan, University of California, Santa Cruz, University of California, Irvine and five conferences

### **Honors:**

- UAH College of Science Outstanding Faculty Award, 2018
- Eureka Scientific Annual Award, 2013

### **Service:**

- UAH faculty senate 2015 - 2017
- UAH college of science Promotion and Tenure Advisory Committee 2018 - 2019
- UAH CoS Dean Search Committee 2019 - 2020
- A NASA endorsed member of the Athena Study Science Team Working Groups
- Member of the *Lynx* science working groups “Evolution of Structure and AGN populations”
- Referee for *ApJ*, *MNRAS*, *JKAS* and *A&A*
- Reviewer for *Suzaku*, *Chandra* (as a panel chair once), *NRAO*, *HST*, *Gemini*, *JWST*, NASA and NSF Career and AAG proposals and NASA Postdoctoral Program
- *XMM-Newton* US user group 2018 - present

### **Media coverage:**

- UGC 6697 in A1367: Jan. 25, 2005 *Chandra* image release (also featured on space.com)
- ESO 137-001 in A3627 (Orphan stars): Sep. 20, 2007 *Chandra* press release (also featured on ScienceNOW, MSNBC, Science Daily, Sky and Telescope, Science@NASA, ESPN page 2, space.com, HEASARC Picture of the Week etc.)
- Double tails in A3627: Jan. 21, 2010 *Chandra* image release, MSU press release, (also featured on NASA image of the day, Picture of the Week, Washington Post and Youtube)

- Hubble Heritage release on March 4, 2014, “Life is Too Fast, Too Furious for This Runaway Galaxy” (followed by many websites and the Hubble used for UAH Physics postcard)
- ESO/Durham University/UAH joint press release on Nov. 10, 2014, on VLT/MUSE observations of a cluster galaxy
- Constraining dark energy with cluster outskirts: Apr. 28, 2016 *Chandra* press release
- A strong shock in Abell 665: May 4, 2016 UAH press release

### **Postdocs and Students:**

Postdoc: two currently, Rongxin Luo (Nov. 2019 - ), Chong Ge (Jan. 2017 - ), Wenhao Liu (UAH, May 2017 - Nov. 2020), Hao Chen (UAH, Sep. 2017 - March 2019), Andrea Morandi (UAH, Feb. 2014 - Feb. 2018), Sarthak Dasadia (UAH, May - July, 2017)

Graduate students: three currently, Will Waldron (2016 - ), Sunil Laudari (2018 - ), Shrey Ansh (2019 - ), Sarthak Dasadia (2014 - 2017, PhD in 2017, now a data scientist in NYC), Tim Edge (2018 - 2020, MS in 2019), Carl Marlow (2017 - 2018, MS in 2018), Aniket Bire (2015 - 2016, MS), Samantha Johnson (2017 - 2019, MS)

Undergraduate students: Christopher Phillips (2015), Kyle Kotic (2015), Tim Edge (2015 - 2020), Marcel Hardy (2016), Kelsey Romine (2016 - 2017), Kyle Curenton (2016), Kyle Rettke (2016), Colin Arnold (2017), Cody McCammon (2017 - 2019), Elliot Codd (2017), Carlos Mendoza (2017), Nicholas Schragal (2018 - 2021), Joey Cronin (2018), Andrew Guillory (2019 -2021), Nicole De Matteis (2019 - 2020), Ryan Barishian (2020), Wesley Evans (2020), Hyunwoo Kim (2020), Jessica Pascadlo (2020)