**一、 博士后招收信息**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 序号 | 供博士后承担或参与研究课题/项目 | 招收方向 | 专业背景等要求 | 合作导师 | 邮箱 | 是否招收外籍 |
| 1 | 1. 莱曼阿尔法太阳望远镜-科学需求分析及国际比对，项目编号XDA15320103-03,执行期2017-2021； 2. ASO-S卫星工程科学应用系统建设，项目编号XDA15320301，执行期 2018-2021 | We invite applicants for the two immediately available postdoctoral positions in Solar Physics at Purple Mountain Observatory (PMO), Chinese Academy of Sciences (CAS), Nanjing, China. The positions are related to the Advanced Space-based Solar Observatory (ASO-S) mission and initially for two-year full time employment with a competitive salary commensurate with the applicant’s experience and qualification. An extension for another year is possible depending on the candidate’s performance in the first two years. Position 1: The position is dedicated to study of solar activities, such as solar flares, CMEs, filaments/prominences through data analysis and numerical simulation, with emphasis on emission of these phenomena in the Hydrogen Lyman-alpha line and other UV/EUV lines. The goal is to understand the behaviors of solar activities particularly in the Lyman-alpha line. The successful candidate is expected to develop some models or run some radiative hydrodynamic simulations (e.g., RADYN) to help interpret the Lyman-alpha emission from solar flares, CMEs, filaments/prominences, and the results is to be integrated into the data analysis software of the ASO-S mission. Position 2: Scientific preparations and the development of data analysis tools based on coronagraph observations in white light, Lyman-alpha, and other UV/EUV lines. The candidate is expected to study the structures and early evolution of CMEs and their related shocks, prominences, current sheets, etc., via observations and MHD simulations. The data analyses tools written in IDL or python include plasma diagnostics (e.g., density, temperature), data access, image processing and visualization, and the integration of the tools into the data analysis software of ASO-S mission. | Applicants should hold a PhD in physics, preferentially in solar physics or a related field. Experiences in data analysis and simulation are an asset. The candidates should have a strong programming skill in IDL or Python. For position 1, experience in the data analysis of IRIS or SST is very welcomed. Also, strong background in radiative transfer of spectral line and radiative hydrodynamic modeling are favorable for the applicant. For position 2, backgrounds in the data analyses of SOHO/LASCO, STEREO/SECCHI, SOHO/UVCS and their related radiation theory of white-light and UV emissions are mostly wanted. Good knowledge of the English language is essential and the candidates should be capable of working both independently and in team. The application should include the CV, list of publications, at least two letters of recommendation by professors familiar with the applicants, and a statement of research interests and plan. Other information helpful to know the applicants is also acceptable. | 黎辉  封莉  李瑛 | [nj.lihui@pmo.ac.cn](mailto:%3cnj.lihui@pmo.ac.cn%3e)  [lfeng@pmo.ac.cn](mailto:lfeng@pmo.ac.cn)  yingli@pmo.ac.cn | 是 |
| 2 | “银河画卷”巡天计划研究 | 银河系分子云的巡天观测研究  Survey Study of Galactic Molecular Clouds. | 熟练毫米波谱线观测，在分子云观测研究方向有科学产出。  Good at millimeter-wave line observations with publications in the study of interstellar molecular clouds. | 杨 戟  徐 烨  王红池  陈学鹏  江治波 | [jiyang@pmo.ac.cn](mailto:jiyang@pmo.ac.cn)  [xuye@pmo.ac.cn](mailto:xuye@pmo.ac.cn)  [hcwang@pmo.ac.cn](mailto:hcwang@pmo.ac.cn)  [xpchen@pmo.ac.cn](mailto:xpchen@pmo.ac.cn)  zbjiang@pmo.ac.cn | 是 |
| 3 | 光子数可分辨超导相变边缘单光子探测器及其读出电路 | 光学/红外超导相变边缘探测器  Optical/infrared  superconducting transition-edge sensor | 申请人具有高灵敏度超导探测器的研究经验，尤其是超导相变边缘探测器方面的经验将优先考虑。  Candidate should have experience in developing high-sensitive superconducting detectors, especially for superconducting transition-edge sensor. | 史生才 | scshi@pmo.ac.cn | 是 |
| 4 | 参与国家自然科学基金“杰出青年科学基金”项目，基金号11725314、基金名称“高能时域天文”、基金执行期2018/01-2022/12 | 伽玛暴、超新星、引力波电磁对应体或快速射电暴的相关观测与理论研究  Observational and/or theoretical researches on gamma-ray bursts, supernovae, electromagnetic counterparts of gravitational wave events or fast radio bursts. | 获得天体物理学博士学位不超过3年，具备高能天体物理理论或者数据处理相关经验，在伽玛暴、超新星、引力波电磁对应体或快速射电暴已有一定的研究基础。  PhD in astrophysics obtained within recent 3 years. Familiar with data analysis and/or theoretical models in the related field in high energy astrophysics, expertised in gamma-ray bursts, supernovae, electromagnetic counterparts of gravitational wave events or fast radio bursts. | 吴雪峰 | xfwu@pmo.ac.cn | 是 |
| 5 | 1. 国家自然科学基金国际（地区）合作与交流项目--近邻、遥远星系中的恒星形成 （率和致密气体）   2、科技部重点研发计划--恒星形成与星际介质的研究 | 1、通过使用国内国际大型射电、毫米波等观测设备，研究河外星系中的分子气体、尘埃以及恒星形成的性质  The molecular gas (especially dense gas), dust and their relationships with star formation properties of galaxies.  2、各种物理环境下的最佳致密气体探针、 致密气体物理性质及恒星形成定律  Best tracers of dense molecular gas in various environments, star formation rate and star formation law. | 1、具有丰富的数据处理经验，能够进行独立科研的能力。  2、具有团队协作精神。 | 高 煜 | yugao@pmo.ac.cn | 是 |
| 6 | HXI/ASO-S图像重建  （ASO-S首席科学家项目、国家青千项目、联合基金重点项目、ASO-S科学应用系统项目等） | HXI (Hard X-ray Imager) is a payload of ASO-S (Advanced Space-based Solar Observatory), which will be launched in early of 2022. The principle of HXI is based on spatially modulated Fourier transformation. The work should focus on the imager reconstruction of HXI, the method, the codes, and so on. The researches on solar X-rays are also expected. | The research experiences on high energy solar physics is basically necessary. The candidates with some background on the imaging reconstruction and with some knowledge of SSW could take a superiority. | 甘为群  苏 杨 | [wqgan@pmo.ac.cn](mailto:wqgan@pmo.ac.cn)  yang.su@pmo.ac.cn | 是 |
| 7 | 1、彗核活动在木星族彗星演化过程中对其原始结构和形态的作用  2、近地天体与主带小行星自转特性分布与快自转小天体巡天研究。国际（地区）合作与交流项目 | 1、彗星动力学演化、彗核活动演化和形状及表面大尺度结构形成过程的数值模拟研究  2、基于地基观测数据搜寻主带和近地快自转小行星、开展自转特性分布研究 | 1、拥有行星科学、天体力学或天体测量专业背景，熟悉太阳系小天体研究，在国际学术刊物发表相关第一作者SCI论文2篇以上；  2、熟练掌握Fortran/C/Python/Matlab编程语言，熟练用英文开展国际学术交流；  3、有较强的独立工作能力、责任心和团队协作精神。 | 季江徽  赵玉晖 | [jijh@pmo.ac.cn](mailto:jijh@pmo.ac.cn)  zhaoyuhui@pmo.ac.cn | 否 |
| 8 | 1、重点：面向下一代巡天的弱引力透镜研究  2、973：中红移亮红星系研究  3、面上：面向弱引力透镜巡天的图像处理技术 | Gravitational lensing | Candidates should have a Ph.D. as well as experience with gravitational lensing and/or image processing. The successful candidate will work with Dr. Guoliang Li on some ongoing projects, include 1) weak-lensing ray-tracing simulation, 2)cosmic shear measurement, 3)image processing for weak lensing, 4) strong lensing modeling and galaxy microlensing, etc. | 李国亮 | guoliang@pmo.ac.cn | 是 |
| 9 | 用相干太阳射电辐射研究快速动理学磁重联对电子的加速 | 等离子体天体物理 | 熟悉磁流体力学和等离子体物理，对数值模拟研究和分析感兴趣。 | 刘四明 | liusm@pmo.ac.cn | 否 |
| 10 | SKA Cosmology data analysis, cross-correlation study | The postdoc will mainly work on any one of the three following research areas (1) developing single-dish 21-cm intensity mapping data analysis tool; (2) developing interferometry for 21-cm cosmology observation; (3) cross-correlation technique with spectroscopic survey and photometric survey | Good knowledge of cosmology, some experience in radio astronomy, and very good programming skills | 马寅哲 | ma@ukzn.ac.za | 是 |
| 11 | 特洛伊小行星的动力学起源和演化 | 太阳系小天体研究或系外行星研究 | 行星科学领域博士学位获得者，在行星科学研究方面有一定的科学产出和独立科研能力。 | 马月华 | yhma@pmo.ac.cn | 否 |
| 12 | 太阳耀斑和亮点中双向出流的成像观测研究，项目批准号11573072,执行期2016-2019. | Three postdoctoral positions in the field of solar and stellar flares are available immediately at Purple Mountain Observatory, Nanjing, China. The positions are initially for two-year full time employment with a competitive salary commensurate with the applicant’s experience. An extension for three years is possible depending on funding. The positions are dedicated to study the physics of solar and stellar activities, i.e., solar/stellar flares, CMEs, bright points, filaments or prominences through the analysis of existing data from space and ground observations made by SDO, RHESSI, IRIS, Kepler and Lamost etc. The ultimate goal of the project is to understand the physical processes of solar and stellar activities. | Applicants should hold a PhD in astrophysics, preferentially in solar physics or stellar physics. Experience in data analysis is an asset. The candidates should have a strong programming skill in IDL or should be familiar with the SSW (solar software) and other related software for stellar physics. Good knowledge of the English language is essential and the candidates should be capable of working both independently and in a team. The application should include the CV, list of publications, addresses of at least two references, and a short statement of your research interests. Women are strongly encouraged to apply. | 季海生  宁宗军 | jihs@pmo.ac.cn  ningzongjun@pmo.ac.cn | 是 |
| 13 | 双中子星并合的相关物理研究 | 研究方向为高能天体物理，主要包括双中子星并合的相关物理过程、伽玛暴、引力波等。 | 要求申请人有高能天体物理方面的研究背景，有较强的独立科研能力，在国际SCI期刊发表2篇以上论文，有较强的团队合作精神。 | 韦大明 | dmwei@pmo.ac.cn | 否 |
| 14 | 参与国家自然科学基金重点项目“太阳系和致密星系统后牛顿N体问题动力学” | 保结构数值积分方法和太阳系天体长期动力学演化 | 拥有计算方法、行星科学、天体力学、广义相对论、非线性动力学等知识背景，熟悉几何积分算法、后牛顿天体力学、太阳系动力学和混沌动力学研究，以第一作者在国际学术刊物发表相关工作SCI 论文至少2 篇，其中至少有1篇是ApJ、MNRAS、A&A、AJ、PRD、EPJC、PLB等相当层次期刊论文。 | 傅燕宁  伍 歆 | fyn@pmo.ac.cn  [xwu@ncu.edu.cn](mailto:xwu@ncu.edu.cn) | 否 |
| 15 | 参加国家自然科学基金重点项目“小行星物理特性及其统计分布研究” | 1.开展小行星形状反演研究；  2.开展小行星、双小行星、小行星族群的形成演化机制研究。 | 1. 有实测天文学专业背景，熟悉太阳系小天体观测和动力学研究，在国际学术刊物上发表相关第一作者文章2篇以上； 2. 熟悉光学望远镜图像处理，熟悉C/Python/ OpenGL等语言和相关工具，有一定的数据库编程经验； 3. 有较强的独立工作能力和团队合作精神。 | 赵海斌 | meterozh@pmo.ac.cn | 否 |