Ph.D. position in Plasma Astrophysics

- **Institutions:** The doctoral program will start at the International Max-Planck-Research School for Solar System Sciences at the Max-Planck-Institute for Solar System Research in Göttingen, Germany (For the IMPRS program see http://www.mps.mpg.de/solar-system-school/) and finished at the Center for Astronomy and Astrophysics (CAA) of the Technical University (TU) Berlin, Germany. (http://www-astro.physik.tu-berlin.de/) with the possibility of a science motivated intermediate stay at the purple mountain observatory in Nanjing, China.

- **Project:** DFG/NSFC Sino-German Research Project: "Probing electron acceleration by fast magnetic reconnection using coherent stellar radio emissions" funded by the Deutsche Forschungsgemeinschaft (DFG) at the salary stage 50% E13 TV-L.

- **Desired start date:** March 1st, 2018, but applications will be considered until a suitable candidate is selected.

- **Description of the project:** The successful applicant will work with Prof. Dr. Jörg Büchner and Dr. Patricio Muñoz on kinetic simulations of electron acceleration by magnetic reconnection in stellar atmospheres to be verified by observed solar type-III radio bursts. The selected doctoral candidate will use a state-of-the-art fully-kinetic and massively parallel calculating particle-in-cell code, running on European network High-Performance Supercomputers, to simulate the electromagnetic radiation caused by magnetic reconnection. In particular the influence of the electron cyclotron maser instability will be investigated. At the TU Berlin the PHD thesis will additionally be supervised by Prof. Dr. Dieter Breitschwerdt.

- **External collaborations/visits:** The work will be carried out in close interaction with astronomical observations by project collaborators in Germany (Observatory for Solar Radio Astronomy Potsdam) and China including visiting the Purple Mountain Observatory (PMO, http://english.pmo.cas.cn/), in Nanjing, China.

- **Requirements:** Applicants should hold (or must be about to obtain) a Master degree (or equivalent) in physics, astrophysics or a related discipline. Proficiency in both oral and written English is required. The applicant should be enthusiastic about learning and doing research in astro-plasma physics by means of computer simulations using programs written in C++ and Python. Both the MPS and the TU Berlin are equal opportunity employers and therefore applications from women, minorities and people with disabilities are explicitly encouraged and given preference over other candidates with similar qualifications.

- **Application procedure:** Please apply as soon as possible through the IMPRS online application portal http://www.mps.mpg.de/phd/application/. Don't worry if you read there that the deadline for submitting applications in response to the 2017 call has passed and that the call for applications 2018/19 has not been published yet since our current announcement is a special opening to be filled asap after the project funding was just approved in December 2017. According to the application procedure the on-line application should include a short statement of research interests and motivation, a CV in pdf format, copies of university degrees (Bachelor, Master or equivalent), full transcripts of academic records (list of courses with credit and grades in English or German), an abstract of the Master thesis (in English or German) as well as the contact details /E-Mail addresses) for two letters of recommendation. In your online application, please specify and motivate your choice of this particular project within the DFG/NSFC Sino-German Research Project: "Probing electron acceleration by fast magnetic reconnection using coherent stellar radio emissions". If you have questions about the doctoral project, please send an e-mail to the project advisor Prof. Dr. Jörg Büchner ✉ buechner@mps.mpg.de and once the online portal indicates that your application is complete, also to the IMPRS coordinator Dr. Sonja Schuh ✉ info@solar-system-school.de to alert them of your submission.