

Announcement of opportunity for an ESA appointed scientist in the Einstein Probe Mission

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1 INTRODUCTION

1.1 Purpose and scope

This Announcement of Opportunity (AO) solicits the participation of the scientific community in the role of ESA appointed scientist in the Einstein Probe (EP) mission. Through the appointment, ESA intends to gather independent advice for optimising the exploitation of the mission by the general scientific community.

EP is a small satellite dedicated to time-domain astronomy to monitor the sky in the soft X-ray band. It is a mission led by the Chinese Academy of Sciences with international collaboration through ESA and the Max Planck Society. Its wide-field imaging capability is achieved by using established technology of the micro-pore lobster-eye X-ray focusing optics. Complementary to this is a deep X-ray follow-up capability enabled by two Wolter-I type X-ray telescopes. EP is also capable of fast transient alerts triggering and downlink, aiming at multi-wavelength follow-up observations by the world-wide community. Its scientific goals are mainly concerned with discovering new or rare types of transients, including tidal disruption events, supernova shock breakouts, high-redshift GRBs, and of particular interest, electromagnetic sources of gravitational wave events.

The Science Programme Committee approved participation in the Einstein Probe mission as a Mission of Opportunity at its meeting in June 2018. EP is scheduled to launch in late-2022.

ESA will appoint one scientist to represent European scientific interests in the EP Science Team (EPST), in particular by serving on the EP Science Management Committee (SMC). The position will be for a period of three years, renewable. With the exception of expenses incurred while travelling to EP Science Team or EP science operations meetings, ESA will not fund the activities of the scientist and each proposer is responsible for securing his/her own funding from other sources.

The schedule for this AO cycle is given in Table 1.

Table 1: AO schedule and deadlines

Date	Event
18 June 2021	Release of this AO
9 July 2021, 12:00 hrs (noon) CEST	Mandatory Letters of Intent due
31 August 2021, 12:00 hrs (noon) CEST	Proposals due
3 rd Quarter 2021	Appointment of Community Scientists

1.2 AO documentation package

[AO-D1] Einstein Probe Science Management Document; ESA/AWG(2021)2

[AO-D2] Einstein Probe mission website:
http://english.nao.cas.cn/Research2015/rp2015/201701/t20170120_173611.html

1.3 Mission summary

A description of the EP mission science objectives, science measurements, observation strategy, and mission summary can be found in [AO-D2].

The EP Science Management Document (SMD, AO-D1) describes the approach that will be implemented to ensure the fulfilment of the scientific objectives of the EP mission and to optimise its scientific return, science operations and management. The SMD also outlines the data generation approach and data rights, and how the scientific community can participate in the mission.

2 APPOINTMENT REQUIREMENTS AND CONDITIONS

This call is open to scientists based in ESA Member States.

The ESA appointed scientist will join the ESA Project Scientist in representing the European scientific community interests in the EPST as a member of the EP SMC. The responsibilities of the SMC are [AO-D1, §3.2.1]:

- Manage the activities of the EP Science Team overall;
- Advise the EP Science Centre on operations aspects related to science performance;
- Monitor science projects proposed by the Science Topical Panels to ensure 80-10-10 split of the EP operational time between CAS, ESA and MPE
- Monitor the long-term average proportion of EP science return (based on operational time during the proprietary period) to evaluate whether this is satisfactory with respect to the 80-10-10 model, taking corrective action if necessary;
- Define science management policies on publications, data rights, duration of proprietary period, exploitation strategies, etc.;
- Establish agreements with external facilities for follow-up activities. The agreements are to be signed by the EP Principal Investigator;

The appointee is also expected to participate in the operations and data analysis activities of the EP mission.

Candidates will have to describe in the proposals their expertise relevant to the EP science objectives. Candidates will also have to describe their proposed contribution to the responsibilities and tasks defined above, and the relevance of their contribution to the mission. Candidates will have to declare their time commitment to the EP activities and their willingness to take up specific and time-limited tasks as assigned by the EP SMC. The proposals should include the explicit endorsement and support from their institutes.

The successful candidates will be appointed by the ESA Director of Science. The appointment is *ad personam*. The selected scientist will be required to submit short annual reports of his/her EP related activities to ESA.

3 LETTER OF INTENT

Prospective proposers must submit a mandatory Letter of Intent (LoI) by the deadline indicated in Table 1. Proposals not preceded by a corresponding LoI will not be considered. LoIs are limited in length to 2 A4 pages (minimum font size 11 pt), and their purpose is to allow ESA to perform an initial assessment of the expected range of proposals, and to prepare for the evaluation process.

Letters of intent must be structured to contain the following information:

- Name and contact information of proposer;
- Short description of the proposer's expertise and its relevance to Einstein Probe.

4 CONTENTS OF THE PROPOSAL

Proposals submitted in response to the AO are limited in length to 9 A4 pages (minimum font size 11 pt), and must contain the following information:

- A cover letter stating the proposer's name and affiliation and explicitly mentioning the proposer's title, position, institute, address, telephone number and e-mail address (max. 1 page);
- A brief curriculum vitae also including the 10 most relevant publications (max. 2 pages);
- A description of the scientific expertise relevant to the EP science objectives (max. 2 pages);
- A description of the scientific areas of interest and a statement concerning the time availability (max. 3 pages);
- A Letter of Endorsement, signed by the proposer's Head of Institute, with the endorsement to the proposer's application and the explicit support with respect to the proposed activities and the availability of facilities and infrastructure, as needed by the proposer for the accomplishment of the aforementioned tasks (max. 1 page).

5 EVALUATION CRITERIA

The following criteria will be used (in no particular order) in assessing and evaluating individual proposals:

- Candidate's competence and experience relative to the EP mission objectives;
- The level to which the proposal identifies specific competences and addresses the contribution to the tasks described in Section 2.
- Adequacy of the time that the candidate intends to devote to activities related to the EP scientist role.
- Adequacy of resources available to the candidate to carry out activities related to the EP scientist role.

6 LETTERS OF INTENT AND PROPOSAL SUBMISSION

Letters of Intent and Proposals shall be submitted electronically in PDF format (file size cannot exceed 5 MB) according to the instructions on the following webpage:

<http://cosmos.esa.int/web/EP-scientist-2021>

and according to the deadlines listed in Table 1.

Proposers will receive confirmation upon successful receipt of their Letters of Intent and of their Proposals.

Further queries should be addressed to:

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7 ACRONYMS

AO	Announcement of Opportunity
CAS	Chinese Academy of Sciences
EP	Einstein Probe
EPST	Einstein Probe Science Team
ESA	European Space Agency
LoI	Letter of Intent
MPE	Max Planck institute for Extraterrestrial physics
SMC	Science Management Committee
SMD	Science Management Document