### Module title

**Introduction to Plasma Physics**

### Abbreviation

11-EPP-Int-201-m01

### Module coordinator

Managing Director of the Institute of Theoretical Physics and Astrophysics

### Module offered by

Faculty of Physics and Astronomy

### ECTS

<table>
<thead>
<tr>
<th>Duration</th>
<th>Module level</th>
<th>Other prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>numerical grade</td>
<td>--</td>
</tr>
<tr>
<td>1 semester</td>
<td>graduate</td>
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</tbody>
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### Contents

Plasma Astrophysics: Dynamics of charged particles in electric and magnetic fields, Magnetohydrodynamics, Transport equations for energetic particles, Properties of magnetic turbulence, Propagation of solar particles within the solar wind, Particle acceleration via shock waves and via interaction with plasma turbulence, Particle acceleration and transport in galaxies and other astrophysical objects, Cosmic radiation.

### Intended learning outcomes

Knowledge of fundamental processes in plasma astrophysics.

### Courses

V (2) + R (2)

Module taught in: English

### Method of assessment

(a) written examination (approx. 90 to 120 minutes) or (b) oral examination of one candidate each (approx. 30 minutes) or (c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or (d) project report (approx. 8 to 10 pages) or (e) presentation/talk (approx. 30 minutes).

If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest.

Language of assessment: English

Assessment offered: In the semester in which the course is offered and in the subsequent semester

### Allocation of places

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### Additional information

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### Referred to in LPO I

(examination regulations for teaching-degree programmes)

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### Module appears in

Master’s degree (1 major) Physics International (2020)