

<b>Level:</b> master				
<b>Course title:</b> Introduction to plasma physics				
<b>Status:</b> elective				
<b>ECTS:</b> 9				
<b>Requirements:</b> Physics of ionized gases, Atomic physics, Quantum mechanics, Statistical physics				
<b>Learning objectives</b> To introduce students to the basic properties of the plasma conditions and physical processes in the plasma.				
<b>Learning outcomes</b> After completion of the course, students should have developed: - General skills: reading professional literature, acquire basic theoretical knowledge of physical processes in the plasma. - Specific skills: student is qualified to perform the synthesis of theoretical and experimental knowledge and analyze problems related to plasma physics.				
<b>Syllabus</b>  <i>Theoretical instruction</i> The criteria of the plasma condition. Properties of plasma. Characteristics of arc plasma. The characteristics of pulsed plasma. Pinch effect. Population and depopulation processes. Models of plasma. The radiation of plasma. Recombination and Bremsstrahlung (braking radiation) radiation. Line spectra. Line shapes and shift of spectral lines. Treatment of Experimental profiles.  <i>Practical instruction</i> The experimental exercises that follow the content of lectures: Spectral line profiles recording. Plasma electron density determination. Determination of plasma electron temperature of hydrogen plasma. Electron temperature measurement by using Boltzmann plot.				
<b>Weekly teaching load</b>				Other:
Lectures: 3	Exercises: 1	Other forms of teaching: 1	Student research:	