

Study programmes: PhD Studies - Astronomy and Astrophysics			
Course name: Selected topics in radio astronomy			
Lecturers: Dejan Urošević			
Status: Optional			
ECTS: 9			
Attendance prerequisites: None			
Course aims: Attaining of advanced knowledge connected to theoretical and observational studying in contemporary radio astronomy.			
Course outcome: At the end of the course, student has skills to work on some research topics in contemporary radio astronomy.			
Course content: Theory of production of radio continuum. Fundamentals of theory of radio lines production. Hydrogen atom. Interaction between matter and radiation. Fine structure, hyperfine structure. Line radiation of neutral hydrogen. Recombination lines. Molecular lines in interstellar medium. Interpretation of observations of Galactic non-thermal continuum radiation. HII regions and radio recombination lines. Structure of our Galaxy obtained from observations of neutral hydrogen. Stellar winds. Supernova remnants. Pulsars. Radio galaxies and quasars. Cosmic Microwave Background radiation. Radio sources and cosmology.			
Literature: 1. Duric, N.: 2004, <i>Advanced Astrophysics</i> , Cambridge University Press 2. Rohlfs, K. & Wilson, T.L.: 1996, <i>Tools of Radio Astronomy</i> (second completely revised and enlarged edition), Springer-Verlag, Berlin, Heidelberg. Exercises: T. L. Wilson, S. Huttemeister: <i>Tools of Radio-Astronomy (Problems and Solutions)</i> , Springer-Verlag, Berlin, Heidelberg, 2000.			
Number of hours: 10	Lectures: 4	Tutorials: 6	
Teaching and learning methods: Ex cathedra, group work, student research			
Assessment (maximal 100 points)			
Course assignments	points	Final exam	points
Lectures	20	Written exam	-
Exercises / Tutorials	20	Oral exam	60
Colloquia	-	Written-oral exam	-
Essay / Project	-		