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|--|--------------------|-------------------------|----------------------|--------------------|
| <b>Study programmes:</b> Master studies - Astronomy and Astrophysics   |                    |                         |                      |                    |
| <b>Course name:</b> Interstellar medium  |                    |                         |                      |                    |
| <b>Lecturers:</b> Dejan Urošević   |                    |                         |                      |                    |
| <b>Status:</b> Optional  |                    |                         |                      |                    |
| <b>ECTS:</b> 8   |                    |                         |                      |                    |
| <b>Attendance prerequisites:</b> None  |                    |                         |                      |                    |
| <b>Course aims:</b> Acquiring advanced knowledge about interstellar medium   |                    |                         |                      |                    |
| <b>Course outcome:</b> At the end of the course, student has enough skills for listening advanced courses about physics of interstellar medium on PhD studies. Student has enough skills to start a research.  |                    |                         |                      |                    |
| <b>Course content:</b><br>Nature of interstellar medium: gas and dust. Rarefied gaseous hydrogen and helium. Hydrogen and helium as elements that permeate the Universe. Heavy elements in dust grains. Phases of interstellar matter. Observation results related to phases of interstellar medium. Local phenomena in gas and dust. Elastic collisions. Gas interaction with radiation. Ionization. Dissociation. Heating. The size of dust grains, composition and density. The theory of dust grains: charge, temperature, radiative acceleration, evolution. Balance and the dynamics of interstellar gas. HII regions. Supernova remnants. Star formation processes. |                    |                         |                      |                    |
| <b>Literature:</b><br>1. Lequeux, E. Falgarone, C. Ryter: The Interstellar Medium, Springer, 2004<br>Exercises:<br>1. B. Arbutina: Supernovae and their remnants, Creative Commons, Belgrade, 2012   |                    |                         |                      |                    |
| <b>Number of hours:</b> 7  | <b>Lectures:</b> 3 | <b>Tutorials:</b> 2 + 2 | <b>Laboratory:</b> - | <b>Research:</b> - |
| <b>Teaching and learning methods:</b> Frontal / Group  |                    |                         |                      |                    |
| <b>Assessment (maximal 100 points)</b>   |                    |                         |                      |                    |
| <b>Course assignments</b>  | <b>points</b>      | <b>Final exam</b>       |                      | <b>points</b>      |
| Lectures   | 20                 | Written exam            |                      | 40                 |
| Exercises / Tutorials  | 20                 | Oral exam               |                      | 20                 |
| Colloquia  | -                  | Written-oral exam       |                      | -                  |
| Essay / Project  | -                  |                         |                      |                    |