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| Study programmes: PhD studies - Astronomy and Astrophysics | | | | |
| Course name: Special methods for processing of astronomical data | | | | |
| Lecturers: Stevo Šegan | | | | |
| Status: Optional | | | | |
| ECTS: 9 | | | | |
| Attendance prerequisites: None | | | | |
| Course aims: Obtaining advanced and specific knowledge of the modern methods for processing of astronomical data | | | | |
| Course outcome: After completing the course, student has advanced knowledge in the field of data processing and is capable to do independant scientific research. | | | | |
| Course content: Schema of general classification of reduction of observational data and methods for their solving with mathematical basics; Numerical methods; Statistical methods; Semi analytical methods; Regression and correlation; Analysis of time series; Dispersion analysis; Covariant analysis; Models of topological regression; Rank correlation; Tables of conjugations; Numerical taxonomy and cluster analysis; Limitations in astronomical practice; Uniform generators of random numbers; Noise generators. | | | | |
| Literature: | | | | |
| 1. S.A. Aivazyan et al., Applied Statistics - study of relationships, 1985; | | | | |
| 2. I. A. Fransis, A survey of statistical Software, 1983; | | | | |
| 3. U. Grenander and M. Rosenblatt, Statistical analysis of stationary time series, 1966; Trumpler and Weaver, Statistical Astronomy, 1953. | | | | |
| 4. Д. Буровић: Математичка обрада астрономских посматрања(1974); С. Шеган: Сет од 15 лекција из Специјаних метода | | | | |
| Number of hours: 10 | | Lectures: 4 | Tutorials: 6 | |
| Teaching and learning methods: | | | | |
| Frontal, group, practical work | | | | |
| Assessment (maximal 100 points) | | | | |
| Course assignments | | points | Final exam | points |
| Lectures | | 20 | Written exam | - |
| Exercises / Tutorials | | 30 | Oral exam | 20 |
| Colloquia | | - | Written-oral exam | - |
| Essay / Project | | 30 | | |