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Astroinformatics in Bulgaria

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Wide-Field Plate Database

- Wide-Field Plate Database (WFPDB, wfpdb.org) is a basic source of data for the wide-field astronomical photographic plates, obtained with professional telescopes worldwide.
- Practically the WFPDB is a unique wide-field telescope, giving access to the photographic astronomical observations, done systematically in the period $1880 - 2005$. The database contains wide-field plate archives metadata from all over the world (for $\approx 600\,000$ plates).
- A special attention on the plate archiving is paid on some plate collections in Germany, USA, Ukraine, Romania, Hungary, Armenia, Belgium, Serbia, etc., where with the help of our working team and the efforts of astronomers, networking and information technology specialists, and librarians, the process of plate archiving is actively running.

Astroinformatics

- Having in view that the area of AI has emerged as an interdisciplinary area of Astronomy and modern ICT, based on the modern Internet developments, four institutes of the Bulgarian Academy of Sciences working in these areas, launched a joint project called *"Astroinformatics: signal processing and analysis of digitized astronomical data and web-based implementation"* in 2009.
- The project aimed at the development of the necessary methods and techniques.
- As a truly interdisciplinary area AI in Bulgaria has arisen from the need of ICT methods for preservation and exploitation of the scientific, cultural and historic heritage of astronomical observations.

Education

- Now several BAS institutes, as well as Sofia University and New Bulgarian University collaborate for offering PhD programs in this area. Some master theses were already done.
- At undergraduate level, the training of students includes operation with big data as part of the learning process in programming, algorithms and numerical methods.
- Another tool for education in AI is the developing site (`www.humboldtastroinformatics.net`), set up for exchanging information and networking and to be a regional node for AI. The site offers also possibilities for the wide public to learn and even to serve to public science through existing public portal, created dictionary, interactive blog and contacts with professionals.

References

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