Database Retrieval Systems for Nuclear and Astronomical Data

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Data retrieval and plot systems of nuclear data and astronomical data are constructed on a common platform. Web-based systems will soon be opened to the users of both fields of nuclear physics and astronomy.

The compilation of nuclear data has played an important role in contributing not only to the scientific research but also to the technological progresses. At the same time, this invokes demands for the utilization of nuclear data. There are some systems in the world that can search and plot the data from enormous database. However, no retrieval system can treat both experimental and evaluated nuclear data simultaneously. Based on the needs for comparisons of evaluated data with experimental data in a more convenient way, we have developed a web-based retrieval system [4].

On the other hand, we have launched a project of constructing the database of astronomical data that treat the observed properties of stars in the Galactic halo born in the early universe [1]. This project is motivated by the recent growing number of known extremely iron-poor stars and by our recent work on the origin of such stars [2] after the discovery of the most iron-poor object [3], which is more encouraged by the recent break of the record [4]. The purpose of the project is to identify the first generation objects as well as the comprehensive understanding of the history of our universe through the accumulation of observational data. Due to the difficulty of compiling the data from individual papers, the database of this kind has not yet been opened to the astronomical society.

Both systems are composed of the CGI form and the SQL database system. Users are easily accessible to the required data by setting the queries in the form and hitting a submit button. Selected data are plotted on the browser through the creation of files of the relevant data. Furthermore, the interchange between the database and the data at hand is done easily via the web-form. In this poster, the outline and some demonstrations of the retrieval systems for nuclear and astronomical database are presented with the captured images from the web.

References

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