Introduction to Data Center for Astronomical Almanac (DCAA) of Korea

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Abstract

The astronomical almanac data such as the times of sunrise/set and moonrise/set are essential in a nation and in a daily live. To evaluate and disseminate astronomical almanac data, the Data Center for Astronomical Almanac (DCAA) affiliated to Korea Astronomy and Space Science Institute (KASI) was appointed as a Data Center in January 2009 from the National Center for Standard Reference Data (NCSRD), which is mandated by the Ministry of Knowledge Economy of Korean. The main task of the DCAA is to excavate astronomical almanac data and to evaluate them according to the requirements for the standard reference data (SRD) such as the traceability, consistency, uncertainty, and so forth. We classified Korean almanac data into three groups (i.e., Classes I, II, and III) based on the similarity in calculation processes. As a first step, we evaluated for Class I data – rising/setting times of the Sun and moon, meridian passage and twilight times of the Sun, and the azimuth and altitude angles of the Sun – and acquired the grade of the certified SRD, the highest grade among SRDs, from NCSRD. In this paper, we introduce the astronomical almanac data belonging to each class together with a brief history of the DCAA and the evaluation processes relating to Class I. In future, we are planning to evaluate remaining classes and register as a SRD. We expect that those SRDs will be useful in various fields such as industry, agriculture, architecture and so on as well as in daily live. In addition, we think that this study will be helpful for analyzing and verifying astronomical almanac data in other countries.

Keyword: *astronomical almanac data, standard reference data, Data Center for Astronomical Almanac (DCAA)*

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