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We studied an Korean astrolabe made by Ryu Geum (1741~1788), the late Joseon Confucian scholar. It has a diameter of 17 cm and a thickness of 6 mm and is now owned by Museum of Silhak. In the 1267 of the reign of Kublai Khan of Mogol Empire, Jamal al Din, an Ilkhanate astronomer, present an astrolabe to his emperor together with 6 astronomical instruments. In 1525, an astrolabe was first made in Korea by Lee, Sun (李純, ?~?), a Korean astronomer and royal official of Joseon Dynasty. He was referred to Gexiang xinshu, a Mongolian-Chinese book by Zhao, Youqin (1280-1345), an astronomer of Mongolian Empire. This astrolabe has not been left. In the mid-17th century, an astrolabe was introduced to Joseon again through Hungai tongxian tushuo (渾蓋通憲圖說) edited by Chinese Mathematician Li Zhi-zao (李之藻, 1565~1630), that originated from Astrolabium (1593) of Christoph Clavius (1538-1612). It seems that Ryu referred to Hungai tongxian tushuo which affect to Hongae-tongheon-ui (渾蓋通憲儀) edited by Nam, Byeong-Cheol (南秉哲, 1817~1863). We analysis lots of circles on the mother and a set of index from the rete of of Ryu's astrolabe. We find that the accuracy of circles has about 0.2~0.4 mm in average if the latitude of this astrolabe is 38 degrees. 11 indices of the rete point bright stars of the northern and southern celestial hemisphere. Their tip's accuracies are about $2^{\circ}.9 \pm 3^{\circ}.2$ and $2^{\circ}.3 \pm 2^{\circ}.8$ on right ascension and declination of stars respectively.

[구 HA-02] A study of the *Xinfa Suanshu's* catalogue (1628.0): Comparison with the star catalogue of the *Tablae Rudolphinae*

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The *Xinfa Suanshu*, which was an important astronomical book in East-Asia, was published in 1644. This book was including the star catalogue. We researched the data of 1365 stars recorded in this star catalogue (the equinox of the catalogue is identified to be 1628 year). According to our analysis, it can be presumed that the star catalogue's data were observed from at least two

places or more. Based on historical background, we assumed that the *Xinfa Sunashu's* catalogue likely referenced knowledge from the Europe or Arab/Islamic culture. The researchers who have studied the *Xinfa Sunashu's* star catalogue have all focused on Brahe's star catalogue. But they did not provide clear evidence. Therefore, we are compared with the star data recorded in *Tablae Rudolphinae*. In conclusion, we confirmed that 881 stars among the 1365 stars were perfectly edited from position data of stars recorded in Brahe's star catalogue (1602).

[구 HA-03] Research on the Construction of the Archive for Korean Astronomical Records

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한국천문연구원에서 “동아시아 천문아카이브 구축을 위한 기획연구”의 일환으로 2018년 4월부터 6월까지 수행한 천문사료 연구 계획을 소개하고자 한다. 이 연구의 목적은 정사 및 개인문집에 수록된 방대한 한국의 천문기록 자료를 집대성하는 것이다. 우선적으로 고려사, 조선왕조실록, 승정원일기 등의 정사에 수록된 천문 기록들을 일정한 형식으로 수집하려고 한다. 이들을 다른 관찬 문헌 및 사찬 문집 등과 비교 연구를 통해 e-science 기반 자료로 활용하고자 한다. 1 단계 총 5년간의 연구기간을 통해서 순차적으로 open science platform 형식의 천문 아카이브 제공할 계획이다.

[구 HA-04] Study on a Web-based Testbed for Historical Astronomy Records and Accounts Services

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