[박IM-01] Significance of FUV Studies through Observations of Two Galactic Supernova Remnants

Il-Joong Kim
Korea Advanced Institute of Science and Technology (KAIST)
Current address: Korea Astronomy and Space Science Institute (KASI)

The previous far-ultraviolet (FUV) observations of supernova remnants (SNRs) have been very rare and restricted to within only a small portion of target areas. For only four nearby SNRs, the results of FUV observations of each whole area have been published recently using the FIMS/SPEAR instrument. In this study, the results of FUV observations made for two other nearby SNRs (the Monogem Ring and RCW 114) are presented from the data of the same instrument. Unlike other famous and bright SNRs, neither is bright and, hence, has ever been analyzed deeply in various wavelength domains. This is because the Monogem Ring has been evolving in an extremely len-density ambient ing hstellar medium (ISM), on the other hand, RCW 114 has already evolved and cooled too much.avevertheless, this study of FUV observations reveals their identifications domang hactions with their ambient ISM, which have never been revealed previously. Most of missing SNRs in the Galaxy is likely to be in the same situation as the above two SNRs. This study shows that FUV observations can be an alg has bve to reveal those missing SNRs, alghough the ing hstellar extinction makes the limitation. With this mo bvation, a search for C Ⅳ λλ1548, 1550 emission-lines from 87 Galactic SNRs was also carried out. In this search, C Ⅳ has been newly detected for 8 targets, and then the origins for 5 targets were confirmed. It has been ffrod that sact significant C Ⅳ features are correlated clearly with other wavelength morphologies for the Monoceros Loop, the Vela Jr. SNR, G65.3+5.7, G279.0+1.1, and G353.6-0.7.

[구IM-02] H_2 Fluorescent Emission and C IV Emission in the OES Region

Young-Soo Jo[1], Kyung-Wook Min[1], Il-Joong Kim[1], Jae-Woo Park[1], Yeo-Myeong Lim[1], Kwang-Il Seon[2], Dae-Hee Lee[2], Kwang-Sun Ryu[3]
[1]KAIST, [2]Korea Astronomy & Space Science Institute
[3]Satellite Technology Research Center

The far-ultraviolet (FUV) H_2 and C IV emission spectra of Orion Eridanus Superbubble (OES) is hereby presented. The OES seems to consists of multiple phase through the detection of highly-ionized gas and pervasive neutral hydrogen. The former is traced by hot gas while the latter is traced by cold medium. A spectral image made with H_2 fluorescent emission shows that the spatial distribution of hydrogen molecule is well correlated with the dust map. The model spectra was taken from a photodissociation region (PDR) radiation code which find a best suitable parameter such as hydrogen density and intensity of the radiation field. C IV emission is caused by intermediate temperature ISM about $10^{4.5}$ K ~ 10^6 K. Therefore we could get more clear evidence to reveal the structure of OES. In this process, the hydrogen density and gas temperature were also estimated. The data were obtained with the Far-Ultraviolet Imaging Spectrograph (FIMS) and the whole data handling were followed by previous FIMS analysis.