정보 2과제가 선정되었다. 이 과제는 대형 멀티미디어 DB 개발과제로 정보통신 매체를 통해 인터넷과 호환성이 되도록 개발될 예정으로 천문대는 전문정보 제공자로 참여하게 될 것이다. 본 연구는 천문우주과학 정보의 수집, 체계화, DB 구축 및 응용소프트웨어의 개발로 천문우주과학 연구에 기초 자료를 제공할 뿐만 아니라 생성된 정보를 국내의 정보통신 매체를 이용하여 국민들에게 서비스하기 위하여 추진하고자 한다.

OBSERVATIONS OF MOLECULAR CLOUDS IN THE hh 1-2 REGION

Minho Choi

Institute of Astronomy and Astrophysics, Academia Sinica, Republic of China

We obseved Herbig-Haro object HH 1-2 region with several molecular lines. We confirmed that there are two large scale (~150") elongations roughly parallel to each other in the HCO+3-2 line map. From the morphology and position of the elongations and maps of other molecular lines, we suggest that the two elongations may not be physically connected. Our HCO+4-3 and H2CO303-202 maps show that there is a ~40" scale elongation near the central source, VNA 1. We suggest that this elongation is a disk-like structure with high density (~ $10^5/cm^3$) and with a possible collapsing or expanding motion. Our CO 3-2 data shows the existaence of molecular outflow around VLA 1. The full width of the CO 3-2 line wing is 34 km/s. The mass of the outflow is > 0.008 $M_\odot$. We also found that HCO+ at downwind of HH 2 is possibly enhanced due to the shock.

INTERACTION BETWEEN THE W51C SNR AND A MOLECULAR CLOUD : I. H I 21-CM LINE OBSERVATIONS

Bon-Chul Koo and Dae-Sik Moon

Department of Astronomy, Seoul National University, Seoul 151-742, Korea

We report the results of high-resolution H I 21-cm line observations of the shocked interstellar gas in the W51 complex. The shocked H I gas has been detected between v_{LSR} = +82 and +196 km s^{-1}, which is much greater than the maximum velocity ($\simeq$60 km s^{-1}) permitted by the Galactic rotation toward this direction (l = 49°). The H I gas is distributed along a loop-like filamentary structure of ~ 10′×3′ size (or ~ 17 pc × 5 pc size at a distance of 6 kpc). The velocity structure indicates that the detected H I gas constitutes a portion of a thin, concave shell. By comparing with the X-ray/CO distributions, we have found that the shocked H I gas is located at the interface between the X-ray bright region and a molecular cloud. The correlation between the X-ray, CO, and H I emission strongly suggests that we are observing an interaction between the supernova remnant (SNR) W51C and a large molecular cloud. The fast moving H I gas represents the shock-dissociated molecular cloud material, which later has recombined. The large amount (>1200 $M_\odot$) of fast-moving H I gas indicates that the shock is a fast, radiative, J-type shock. The VLA line profiles give the line-of-sight shock velocity $\simeq$ 70 km s^{-1}. A simple model where a half-spherical H I shell expanding into a cylindrical cloud from the side can explain the observed morphology and