

서의 분자운과 수소전리영역의 상호관련, 활동지역과의 접촉에 의한 분자함량의 변화, 공간속도 구조와 밀도분포등에 대한 연구를 하였다.

전체분자운의 구조는 밀도가 매우 높은 중심부가 수소전리영역과 접촉하고 있는 것으로 나타나며 그 외의 지역은 북동방향으로 확장되면서 많은 덩어리구조를 보이고 있다.

이 접촉지역의 고밀도 중심부의 분자함량은 일반적인 "warm molecular cloud"들과 비슷하나 별탄생지역이나 강한 충격파지역에서 매우 분자량이 증가하는 SO의 경우는 10배 이상 증가된 것으로 나타나 수소전리영역의 활동에 영향을 받고 있는 것으로 짐작된다. OCS, SO₂, HNCO의 분자함량은 상한값 만을 얻었다.

CO OBSERVATIONS OF BARNARD 34

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With the Nagoya 4 m radio telescope, a Bok globule Barnard 34 was observed in the CO(J=1→0)emission. An extended area, 40 arcmin x 54 arcmin in right ascension and declination, was mapped at intervals of two arc minutes, and in the ¹²CO emission only a cross-cut scan was made over 50 arcmin in RA and 60 arcmin in Dec. The resulting map of ¹³CO integrated intensity delineates two large clumps, whose line-of-sight velocities differ from each other by 1.2 km/s. Each of the two clumps comprises again two to three smaller clumps. All these sub-structures of the globule form a long filamentary distribution, running from north-east to south-west. The globule morphology seen from the radio map is quite different from its optical image in the POSS print.

If the globule is located at distance 200pc, with the estimated LTE mass we conclude that the two clumps move too fast to form a bound system. There are three IRAS point sources in the region. Analysis of the IRAS fluxes at 60 and 100 m and of the IRAS energy spectra of the three sources suggests that the one at the center of northern clump is at an early stage of protostar and the other two near the clump boundaries at fairly evolved stages.

Multiwavelength Study of the Protostellar Object IRAS 19550+3248

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