

(Pinault et al, 1987) and ROSAT (Guo and Burrows, 1993) observations suggest that the unusual morphology of VRO 42.05.01 is caused by a SN blast wave breaking out of the cloud where the SN event occurred, and expanding into another cloud across a much less dense and, presumably, hot cavity. Our numerical results are consistent with the interpretation of a passing SN blast wave across the cavity. We discuss the implications of our results on the dynamics of VRO 42.05.01 such as the breaking of the shell due to the Rayleigh-Taylor instability, the reverse shock formed by a reflection, and the rejuvenation of the cavity.

**OBSERVATIONS OF C<sub>3</sub>H<sub>2</sub> (2<sub>12</sub> - 1<sub>01</sub>)  
TOWARD THE SAGITTARIUS A MOLECULAR CLOUD**  
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We mapped the C<sub>3</sub>H<sub>2</sub> 2<sub>12</sub> - 1<sub>01</sub> transition line toward the Sgr A molecular cloud on a 1' grid spacing. We derive C<sub>3</sub>H<sub>2</sub> column densities of  $\sim 10^{15} \text{cm}^{-2}$  for several clouds of the Sgr A. The fractional abundance of C<sub>3</sub>H<sub>2</sub> relative to H<sub>2</sub> are obtained to be  $1.5 \sim 3.5 \times 10^{-8}$ , which are comparable to that for the cold dark cloud TMC-1. We also estimate masses of  $\sim 10^5 M_{\odot}$  by using total C<sub>3</sub>H<sub>2</sub> masses and the abundance of C<sub>3</sub>H<sub>2</sub> for two clouds (M-0.13-0.08, M-0.02-0.07). From comparison of these with masses by virial theorem, it is suggested that one of two clouds (the M-0.02-0.07) may be in expansion state. The H<sub>2</sub> densities of  $\sim 10^3 \text{cm}^{-3}$  at the cores of these clouds are obtained. We suggest that the enhanced abundance of Sgr A may be accomplished from a modified ion-molecule reaction after the passage of non-dissociating shocks, not from a quiescent ion-molecule reaction.

**S140의 분자함량과 운동학적 특성**

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수소전리영역 S140과 연관되어 있는 것으로 보이는 분자운에 대하여 FCRAO이 14M 전파망원경과 촛점면 어레이(QUARRY) 수신기를 이용하여 10개의 밀리미터파 분자선, <sup>12</sup>CO(1-0), <sup>13</sup>CO(1-0), C<sup>18</sup>O(1-0), CS(2-1), HCO<sup>+</sup>(1-0), HCN(1-0), SO(2-1), SO<sub>2</sub>(2<sub>20</sub>-3<sub>13</sub>), OCS(8-7), 및 HNCO(4<sub>04</sub>-3<sub>03</sub>)를 50"분해능으로 관측하였다. 관측영역은 33'x40'(총1900 여점)으로 이 지역에