

[PIM-05] **3D Numerical Simulations of Impact of a High-Velocity Cloud with the Galactic Disk**

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We perform three-dimensional hydrodynamic simulations, in order to explore the superstructures formed by impact of a HVC with the Galactic disk. We also perform a parameter study for the different incident angle, initial velocity, and density of a HVC. Through the numerical experiments, we can reproduce the mushroom-shaped cloud that resembles the HI observation of GW 123.4-1.5 in size, shape, and velocity structure. We conclude that the collision of a HVC with the Galactic gas disk is a promising model for the mushroom-shaped GW 123.4-1.5. In numerical simulations of oblique collision models, we also find the various and large structures like loop, shell and vertical structure. A loop structure in our simulation resembles the molecular loop at the central molecular zone observed by NANTEN. The size of loop is similar to that of the molecular loop, but the velocity gradient is somewhat smaller. We will briefly discuss the loop structure formed by HVC-disk collision.

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[PIM-06] **FUV Emission and Absorption Feature of the Loop I/North Polar Spur Region**

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We present the results of diffuse far-ultraviolet (FUV) observations for the Loop I/North Polar Spur (NPS) region. We have detected high ionized diffuse emission lines, including C IV and Si II. C IV emission indicates that the cooling occurs in Loop I region. The spectral image made at C IV $\lambda 1550\text{\AA}$ shows a shell-like feature at the outer edge of the X-ray NPS, just inside the Loop I radio ridges. Besides the emission lines, we also analyze the absorption feature of C IV and O VI from various B and A type stars.