

Star formation and feedback in filamentary molecular clouds

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Massive stars have a significant effect on the Galactic environment, but their formation is not well understood. Filaments have recently attracted a lot of attention. Theoretical works show that filamentary molecular clouds can fragment into clumps due to gravitational instabilities. Once the clumps are formed, some of them will evolve, collapse, and form stars. Once a massive star forms inside a filament, UV radiation and stellar winds will ionize the surrounding gas and create an infrared bubble, and perhaps even disrupt the natal molecular cloud. Hence, feedback from young massive stars has been proposed as a significant aspect of the self-regulation of star formation. Particularly, if feedback can maintain the observed turbulence in molecular clouds, then it can be responsible for stabilizing the clouds against gravitational collapse. We will present the results of a multi-wavelength study for filaments G47.06+0.26 and G34.43+0.24, to investigate the star formation and feedback in filaments by observations.