Abstract Submitted
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How do massive stars form? VIRGINIE MONTES, PETER HOFNER, New Mexico Tech — Massive stars play a key role in the evolution of their host galaxies, but their formation remains not well understood. Two main competitive theories try to explain it: the turbulent core model, which is an extension of the low-mass star formation model, and models involving competitive accretion or stellar collisions. The study of the massive star-forming region IRAS 20126+4104 with combined data can help us to characterize the population of that cluster (age and mass of the stars) and be used to discriminate between theories. This region was observed with the X-ray space telescope CHANDRA. We detected 150 sources, and a spectroscopic analysis of each source was performed. To determine the cluster characteristics, X-ray data were combined with radio observations done with the JVLA, infrared counterparts from the survey 2MASS and the space telescope SPITZER, and optical counterparts from the TYCHO catalog. A stellar population simulation was done to determine the expected foreground and background population in the cluster (contamination). This study shows that most of the stars are in the WTTS stage and all stars except the main source are low-mass protostars. I will discuss implications of those results and the future work planned for the cluster.

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