

Abstract Submitted
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A Theoretical Study of Dynamics and Chemistry of the “Gould Belt”¹ JOSE PACHECO, AJIT HIRA, ARRICK GONZALES, DAVID NUNN, KELVIN RODRIGUEZ, ANNIE LOVATO, Northern New Mexico College — The “Gould Belt”, now titled the “Radcliffe Wave”, was long considered to be an expanding ring of young stars, gas and dust, tilted about 20 degrees to the Galactic plane. It stretches out in crests that are 500 light-years, both above and below the middle of our galaxy’s disk. The long structure extends for 9,000 light-years, and measures 400 light-years wide: the largest such structure in our galaxy. Moreover, the physical relation between local gas clouds has remained unknown, because the uncertainty in the distance measurement to clouds is of the same order as their sizes. With the deployment of photometric surveys, and the astrometric survey, we have a lot more data to aid our theoretical analysis. Our calculations are based on molecular dynamics (MD) techniques combined with Self-Consistent Field (SCF) criteria. Our results allow us to present a tentative-three dimensional (3-D) picture of these local cloud complexes.

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