Planck Cold Clumps at High Galactic Latitude

– weekly report

Xu Fengwei[1] Wu Yuefang[1,2] Liu Xunchuan[1,2] Zhang Chao[1,3]

[1]Department of Astronomy, Peking Univeristy

[2]Kavli Institute for Astronomy and Astrophysics, Peking University

[3]Department of Astronomy, School of Phsics and Astronomy, Yunnan University

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Work colletion by week

1. 3.4-3.11

Introduction

3.4-3.11

- 主要修改了 introduction（见第4页）
- 增加了对 N_2H^+(1-0) 和 C_2H(1-0) 两条线的总述（见第8页）
- 对作出的图进行分析（见第9页）

修改 introduction 部分

第一段

In the past several decades, surveys of the molecular content of the Galaxy have been undertaken by many groups...have lower density than those towards the Galactic plane, which are often called translucent clouds ...This advantage attracts a group of astronomers turing to the molecular clouds at high latitude other than those at galactic plane. ~~The distribution of star formation over the Galactic plane remains unknown: how high latitude can star formation still exist or in what kind of process and phase of the HLCs are?~~

修改 introduction 部分

第二段

Magnani and Blitz believed the molecular clouds are optical dark and observed the CO line toward optical obsurations...detailed information within 1pc demonstrated that the distribution of molecular clouds show smaller structures...Yamamoto followed up wtih observation toward the HI filament region including MBM 53, 54, and 55 with approximately 141 square degree.

修改 introduction 部分

第三段

However, the research of HLCs demands far more investigation and information(表示前人工作仍有需要补充的地方)...One doable method is to use the relatively accurate spacing telescope to detect the specified regions of HGal. And this is what we did as follows. (引入我们的方法)

修改 introduction 部分

第四段

Planck surveys provide an unprecedented complete space distribution of sources...The $30''$ grid spacing satisfys the accuracy to detect the detailed structure of clumpy clouds within 1pc...
10 K to 15 K probably the coldest parts of ISM, which enables us to probe the characteristics of the prestellar phase or starless clumps... But...PGCCs provide continuum spectrum...Fortunately, PMO observation provides all three CO lines.

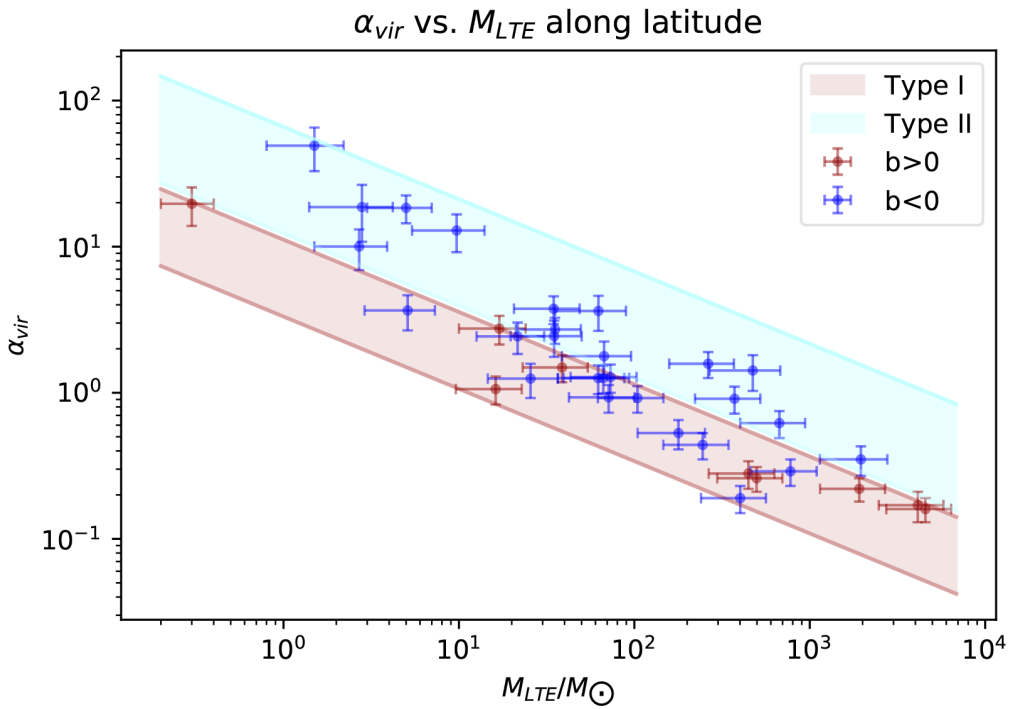
增加两条谱线的总述

N_2H^+, C_2H

Besides, we also observe another two emission lines N_2H^+ (1-0) and C_2H (1-0) for high galactic latitude as supplementary observation. Both two lines are dense region tracers, and even evolutional period detector if at all.

对作出的图进行分析

3.4-3.11



直接拟合出两个带状的分布 猜测银经大于 0 的都是 TypeI，作拟合并且分为明显的两类，进一步发现银经大于 0 的 clumps 都是孤立的，而银纬小于 0 的存在大尺度的 Filament 结构，猜测是 Filament 促生了 TypeII 的产生