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# Erratum: “The JCMT BISTRO Survey: Magnetic Fields Associated with a Network of Filaments in NGC 1333” (2020, ApJ, 899, 28)

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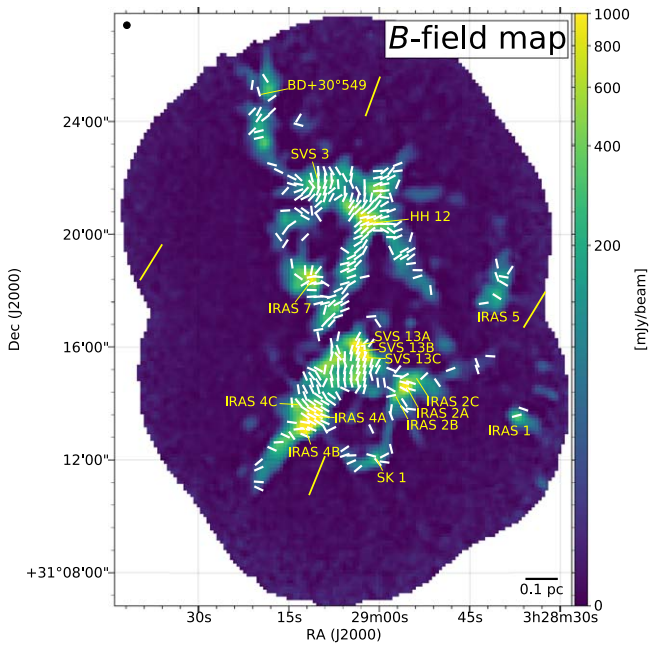
## 1. Description of the Error

In the published article, we presented high-resolution polarimetry data obtained by using JCMT SCUBA-2/POL-2, and compared them with the larger-scale magnetic structure observed by Planck (Planck Collaboration et al. 2020). There was a miscalculation in the analysis of the Planck data for comparison, and the mean position angle of the Planck magnetic field should be corrected from  $-40^\circ \pm 7^\circ$  to  $-48^\circ \pm 6^\circ$ .

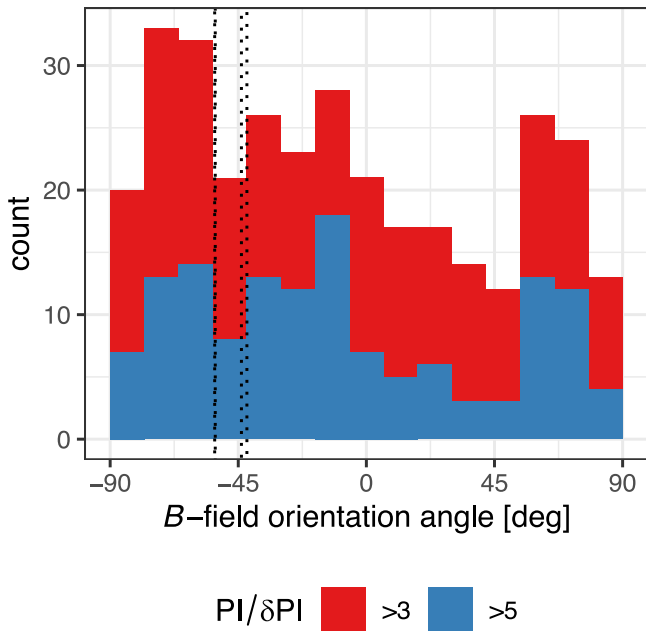
Thus, we replace the descriptions in the published article as follows. In Section 4.2, paragraph 3, the second sentence should read: “The differences between the orientations of IRAS 4A, IRAS 4B, and IRAS 2A are not statistically significant, but they do show significantly different orientations from those of the global  $B$ -field observed by Planck ( $-48^\circ \pm 6^\circ$ ; Section 4.1).” In Section 4.1, paragraph 3, the second line should read: “The Planck  $B$ -field orientation shows a smoothly and slowly varying field distribution with a position angle of  $-48^\circ \pm 6^\circ$  in our observed NGC 1333 area.” Accordingly, we replace Figures 4, 5, 9, 10, and 17 to reflect the correct Planck data.

As described above, this error of modest magnitude is related only to our derivation of the Planck polarization angle, and the JCMT observation results are unaffected. Therefore, all conclusions drawn in the published article are unchanged even after the above correction is applied. The 1 pc scale magnetic field observed by Planck shows a smooth distribution, and the interstellar magnetic field in molecular clouds increases the complexity significantly on the scale of less than 1 pc.

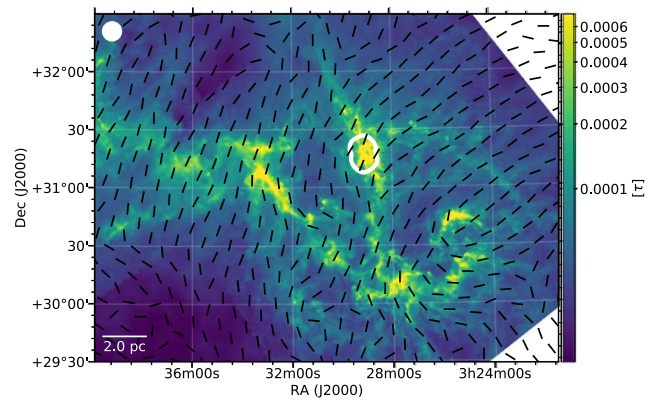
<sup>73</sup> NAOJ Fellow.



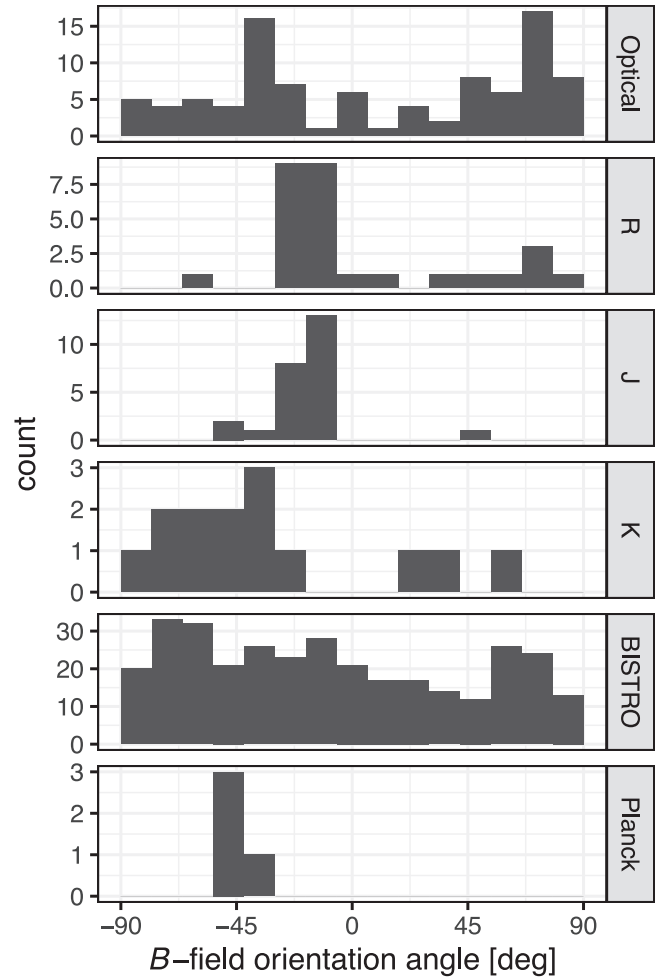
**Figure 4.** Observed  $B$ -field orientation (white line segments) overlaid on a color-scale map of Stokes  $I$ . The  $B$ -field orientation is assumed to be perpendicular to the observed polarization.  $B$ -field orientation is shown for the data points with  $I \geq 25$  mJy beam $^{-1}$  ( $I/\delta I > 10$ ) and  $PI/\delta PI \geq 3$ . The length of the line segments has been normalized to show only the orientation of the  $B$ -field. Yellow line segments are the  $B$ -field orientation observed by the Planck satellite (Planck Collaboration et al. 2020), whose spatial resolution is set as  $10'$  in this analysis. The JCMT beam ( $14''$ ) is shown in the upper left corner of the figure. The spacing of the JCMT and Planck  $B$ -field line segments is equal to the beam size of the observation. Names of main YSOs and infrared sources tabulated by Sandell & Knee (2001) are shown.



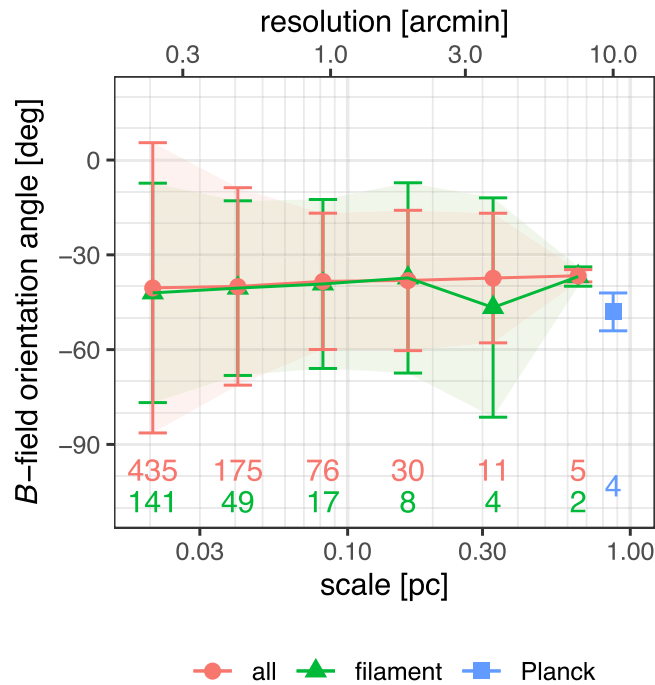
**Figure 5.** Histogram of the position angles for the  $B$ -field orientations ( $\psi + 90^\circ$ ) shown in Figure 4. The typical estimation error of  $\psi(1\sigma)$  is  $4^\circ$  for  $PI/\delta PI > 5$  and  $5^\circ$  for  $PI/\delta PI > 3$ . So we set the bin size of the histogram as  $12^\circ$ . Dotted lines indicate the  $B$ -field orientation observed with Planck within the JCMT field of view (see the yellow line segments in Figure 4). The distribution of position angles is estimated as  $-46^\circ \pm 58^\circ$  for the  $B$ -field orientation observed by JCMT and  $-48^\circ \pm 6^\circ$  for that by Planck.



**Figure 9.** Planck observed  $B$ -field orientations in the Perseus molecular cloud (Planck Collaboration et al. 2020) are shown as black line segments. Here, we set the spatial resolution of the Planck data as a  $10'$  FWHM Gaussian to achieve good S/Ns. The assumed beam ( $10'$ ) is shown in the upper left corner of the figure. Color scale is the dust optical depth at 353 GHz estimated by Zari et al. (2016). The western half of the Perseus molecular cloud complex is shown in this figure. Our observed area at NGC 1333 is marked in white.



**Figure 10.** Histograms of the position angles for the  $B$ -field orientations observed by optical and near-infrared polarimetry. Optical data (762.5 nm) are from Goodman et al. (1990).  $R$ -band and  $J$ -band data are from Alves et al. (2011).  $K$ -band data are from Tamura et al. (1988). Submillimeter data taken by BISTRO and Planck, rotated by  $90^\circ$ , are shown for comparison. Note that the spatial coverages are different for individual observations, especially  $R$ -band and  $J$ -band data by Alves et al. (2011), which cover only a small area south of the IRAS 4A and IRAS 4B (see text).



**Figure 17.** Scale dependence of the circular mean and the circular standard deviation ( $\pm 1\sigma$ ) of the  $B$ -field orientation in NGC 1333. Here we add the estimated missing large-scale flux of  $Q$  and  $U$  (Section 2.4) to our observed  $Q$  and  $U$  values to evaluate the  $B$ -field orientation of larger spatial scales (=lower spatial resolutions). We apply Gaussian-smoothing to  $Q$  and  $U$  values and estimate the  $B$ -field orientations at reduced spatial resolutions. The points “all” correspond to all the independent JCMT observations (white line segments in Figure 4 and smaller number of beams for reduced spatial resolutions), while the points “filament” correspond to the beams selected from “all” whose central positions are on the filaments (#7, #13, #15, and #18 in Figure 6). The  $B$ -field orientation observed by Planck (10' spatial resolution; yellow line segments in Figure 4) is also shown. Note that the Planck data cover a wider field than the BISTRO data (see Figure 4). The colored labels at the bottom of the figure indicate the number of independent beams.

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