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The Magnetic Field in Star-Forming Regions of Perseus Molecular Cloud

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We present magnetic field strength maps in the star-forming regions, including IC348, L1448, L1455, NGC1333, and PerB1, of the Perseus molecular cloud. The angular dispersion is calculated from the 850 μm linear polarization maps as part of B-fields In STar-forming Region Observations (BISTRO) survey. The velocity dispersion is estimated from spectral lines of $C^{18}O$ and N_2H^+. The result shows that the magnetic field strength is higher at the core regions. Furthermore, we compare the magnetic field strength with volume density and find that they follow the expected power law. The mass-to-flux ratio in most of the regions is found to be less than 1, suggesting magnetically supercritical.

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