



# 2MASS wide field extinction maps: IV. The Orion, Mon R2, Rosette, and Canis Major star forming regions

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We present a near-infrared extinction map of a large region (approximately  $2200 \text{ deg}^2$ ) covering the Orion, the Monoceros R2, the Rosette, and the Canis Major molecular clouds. We used robust and optimal methods to map the dust column density in the near-infrared (NICER and NICEST) towards  $\sim 19$  million stars of the Two Micron All Sky Survey (2MASS) point source catalog. Over the relevant regions of the field, we reached a 1-sigma error of 0.03 mag in the K-band extinction with a resolution of 3 arcmin. We measured the cloud distances by comparing the observed density of foreground stars with the prediction of galactic models, thus obtaining  $d_{\text{Orion A}} = (371 \pm 10) \text{ pc}$ ,  $d_{\text{Orion B}} = (398 \pm 12) \text{ pc}$ ,  $d_{\text{Mon R2}} = (905 \pm 37) \text{ pc}$ ,  $d_{\text{Rosette}} = (1330 \pm 48) \text{ pc}$ , and  $d_{\text{CMA}} = (1150 \pm 64) \text{ pc}$ , values that compare very well with independent estimates.

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