

X-ray properties of the young open clusters HM1 and IC2944/2948

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Using XMM data, we study for the first time the X-ray emission of HM1 and IC2944/2948. Low-mass, pre-main-sequence objects with an age of a few Myr are detected, as well as a few background or foreground objects. Most massive stars in both clusters display the usual high-energy properties of that type of objects, though with $\log(L_x/L_{bol})$ apparently lower in HM1 than in IC2944/2948. Compared with studies of other clusters, it seems that a low signal-to-noise ratio at soft energies, due to the high extinction, may be the main cause of this difference. In HM1, the two Wolf-Rayet stars show contrasting behaviors: WR89 is extremely bright, but much softer than WR87. It remains to be seen whether wind-wind collisions or magnetically confined winds can explain these emissions. In IC2944/2948, the X-ray sources concentrate around HD101205; a group of massive stars to the north of this object is isolated, suggesting that there exist two subclusters in the field-of-view.

Reference: accepted by A&A

Status: Manuscript has been accepted

Weblink: <http://arxiv.org/abs/1305.5105>

Comments:

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