

H α imaging of X-ray sources in selected globular clusters with SOAR

Pawel Pietrukowicz

Pontificia Universidad Católica de Chile, Av. Vicuna MacKenna 4860, Casilla 306, Santiago, Chile

Nicolaus Copernicus Astronomical Center, ul. Bartycka 18, 00716 Warsaw, Poland

Abstract. I present results of a search for cataclysmic variables (CVs) and chromospherically active binaries (ABs) as counterparts to X-ray sources detected with *Chandra* in six Galactic globular clusters (GCs): M 4, M 28, M 30, M 71, M 80, and NGC 6752. Binary systems play a critical role in the evolution of GCs, serving as an internal energy source countering the tendency of GC cores to collapse. Theoretical studies predict dozens of CVs in the cores of some GCs (e.g., 130 for M 28, 40 for M 30). A number of such binaries are also expected outside the core radius. However, few CVs are known so far in GCs. Using the 4.1m SOAR telescope, I have found 25 stars with H α excess in the observed clusters. Six are candidate CVs, five are candidate active binaries. The other 14 objects with H α excess are probably foreground/background stars or extragalactic sources.

Keywords. binaries: close, stars: dwarf novae, novae, cataclysmic variables, Hertzsprung–Russell diagram, globular clusters: individual (M 4, M 28, M 30, M 71, M 80, NGC 6752)

The full poster (in pdf format) is available at
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