

METALLICITIES OF YOUNG CLUSTERS IN THE INNER GALAXY

RYO YAMAMOTO
(THE UNIVERSITY OF TOKYO)

KEI FUKUE, NORIYUKI MATSUNAGA, CHIKAKO YASUI, SATOSHI HAMANO,
NAOTO KOBAYASHI (THE UNIVERSITY OF TOKYO),
TAKUJI TSUJIMOTO (NATIONAL ASTRONOMICAL OBSERVATORY OF JAPAN),
SOHEI KONDO, YUJI IKEDA (KYOTO SANGYO UNIVERSITY)

The Metallicity Distribution of The Open Clusters

Investigating the **metallicity** distribution in the inner Galaxy

- It is important for investigating the Galactic evolution

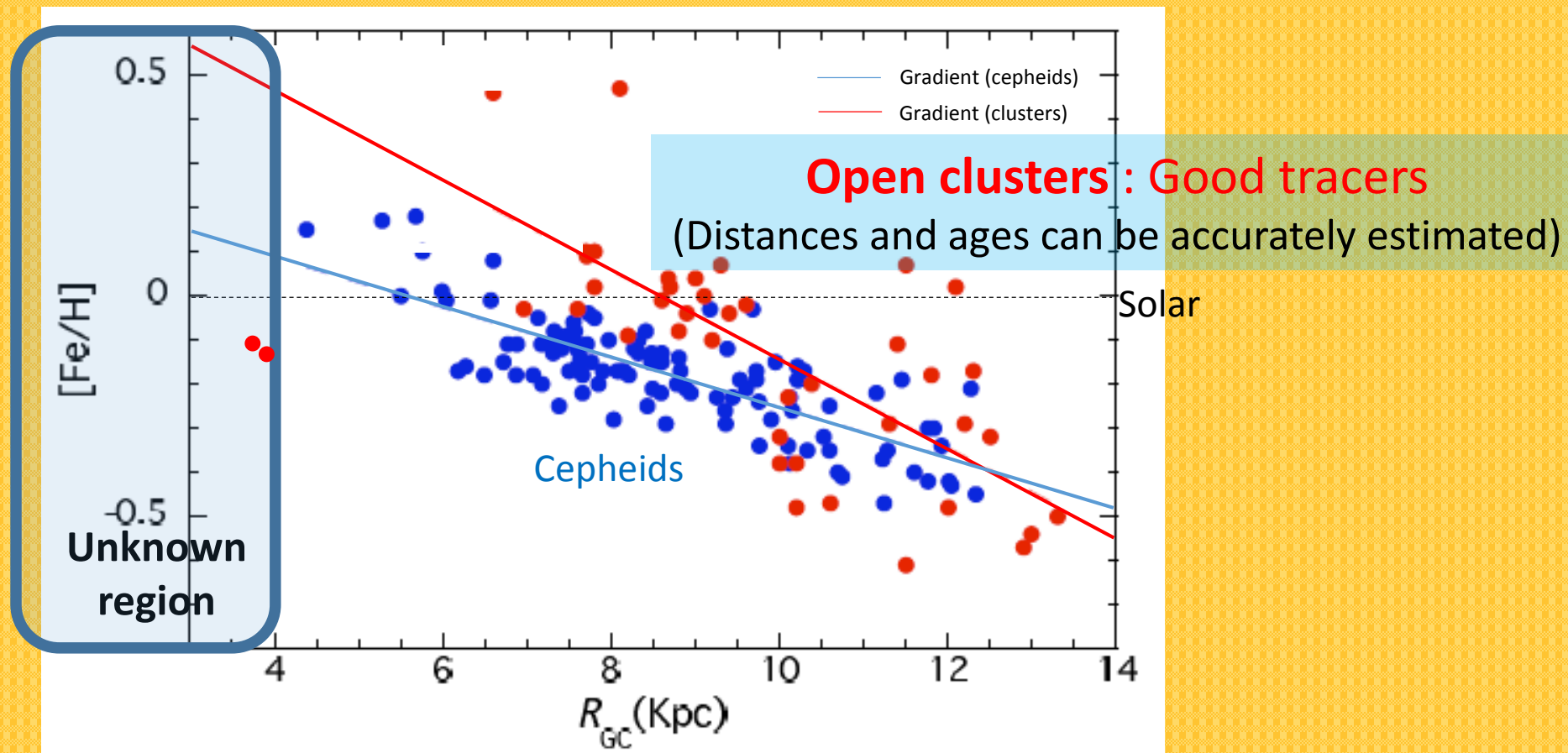


Figure. The Galactocentric distance vs the metallicity (Tsujiimoto et al. 2009)

Study with Near-infrared High Resolution Spectroscopy

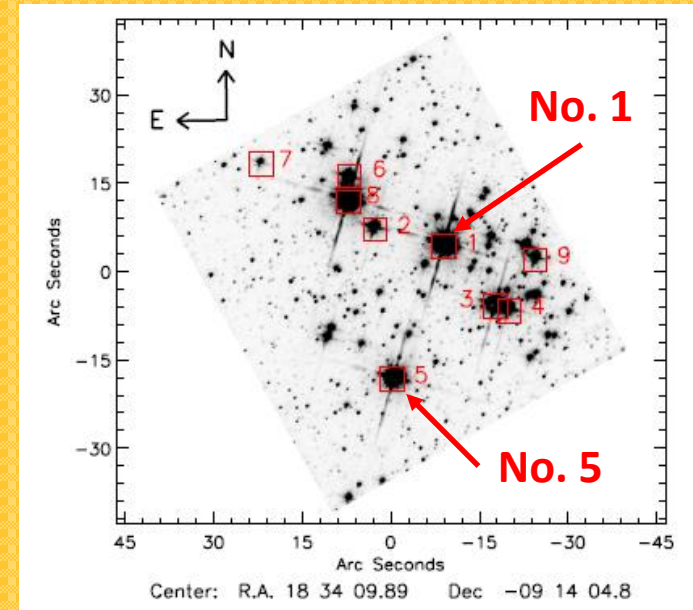
◆ TARGET IN THIS WORK

GLIMPSE9 cluster No.1 and 5 (M0-2I)

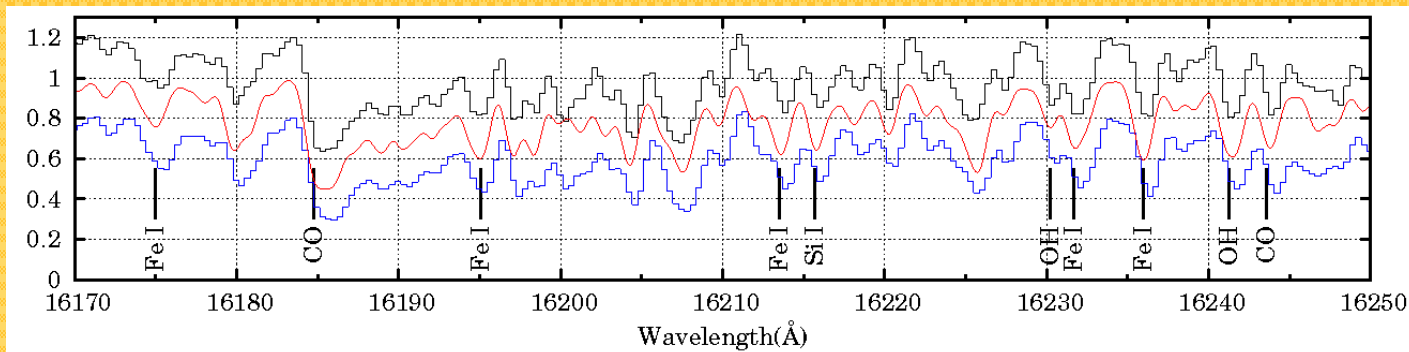
- $R_{GC} \sim 4$ kpc (innermost Galactic disk)
- $M_{cl} \sim 10^3 M_{\odot}$ (typical mass of open clusters)
- Age ~ 21 Myr

◆ OBSERVATION

SUBARU 8.2m telescope / IRCS spectrograph
H-band (1.47 – 1.79 μm), $R \sim 20000$



Mosaic of GLIMPSE9 clusters
(Messineo et al. 2009)



Black: GLIMPSE9 No. 1
Red: Synthetic spectrum
Blue: GLIMPSE9 No. 5

Initial Results of This Work

◆ GLIMPSE9 •• $[Fe/H] = -0.23 \pm 0.11$

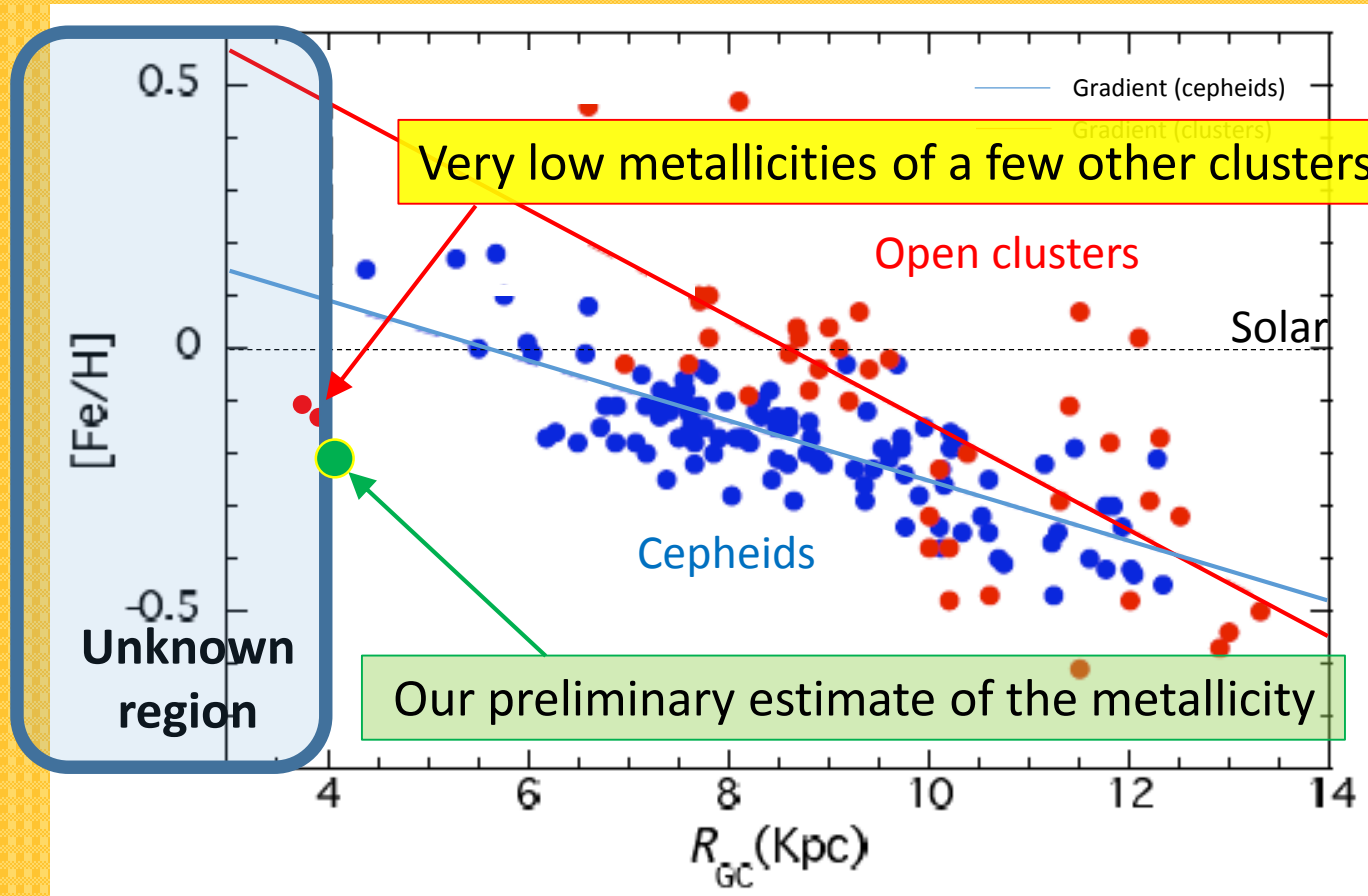


Figure. The Galactocentric distance vs the metallicity (Tsujiimoto et al. 2009)

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