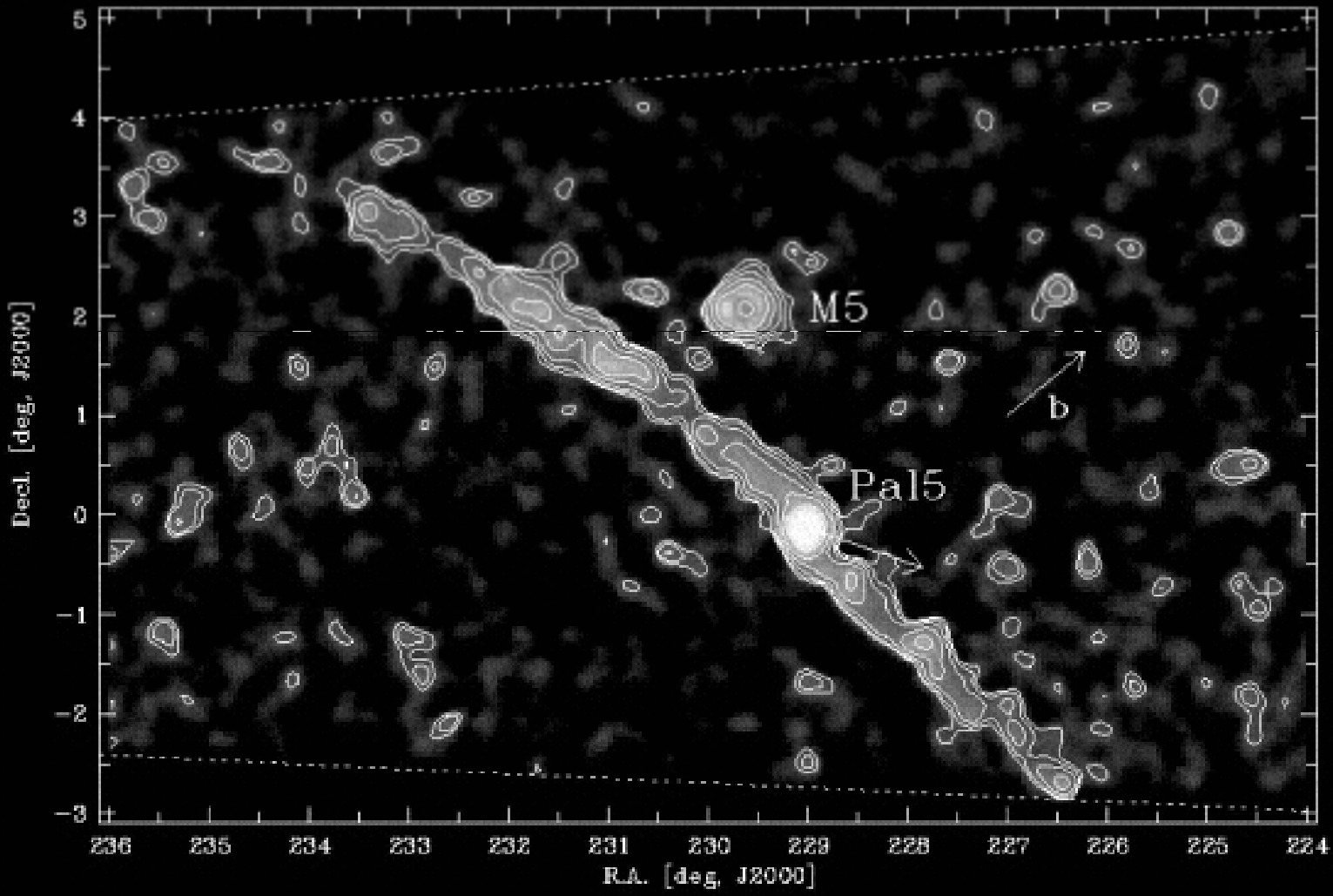
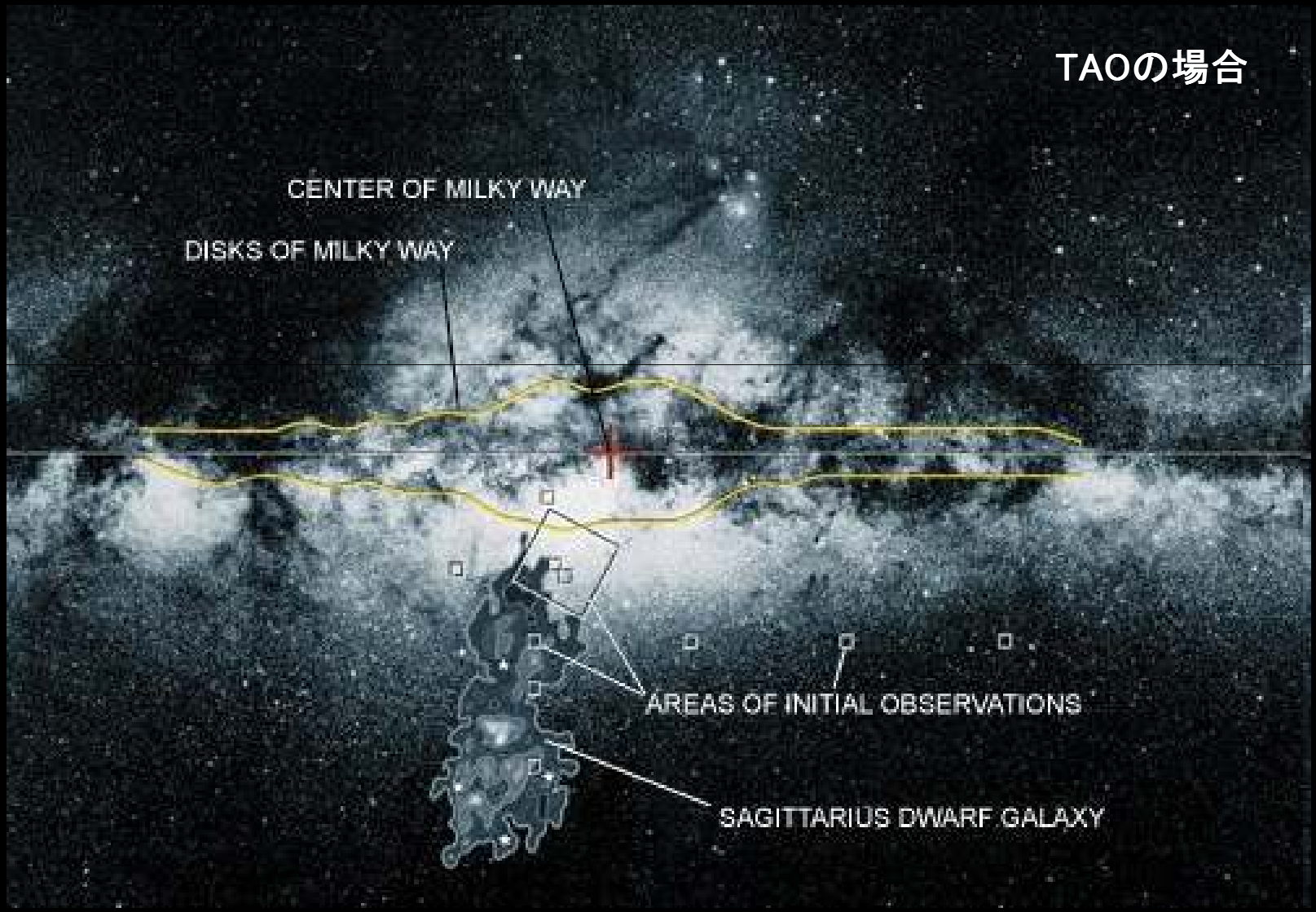
銀河考古学 I 銀河系

N.Arimoto
NAOJ (Japan)

近赤外多体分光装置

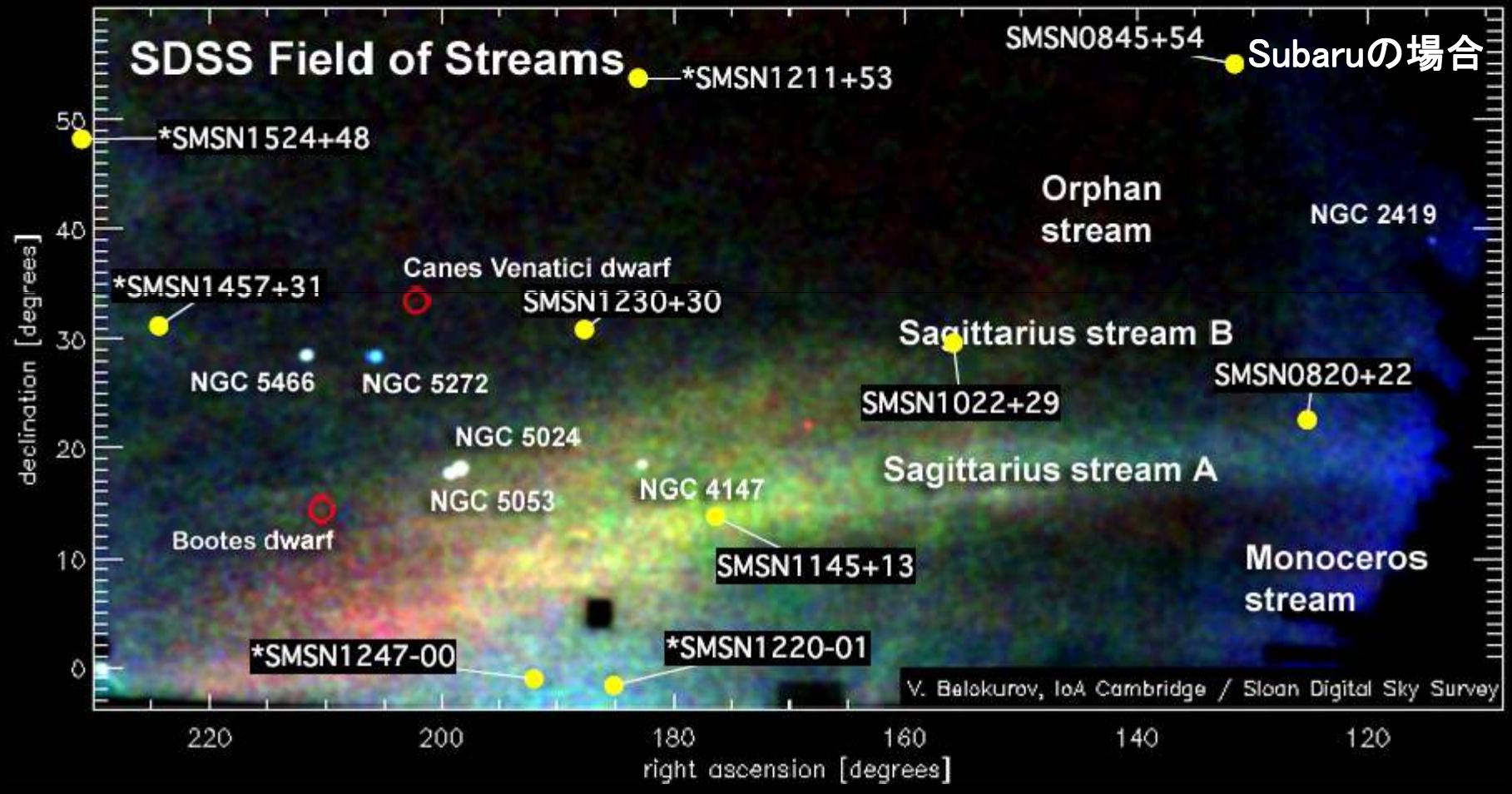

M5
Pal5
b
Decl. [deg, J2000]
R.A. [deg, J2000]
5
4
3
2
1
0
−1
−2
−3
236
235
234
233
232
231
230
229
228
227
226
225
224

いて座矮小銀河

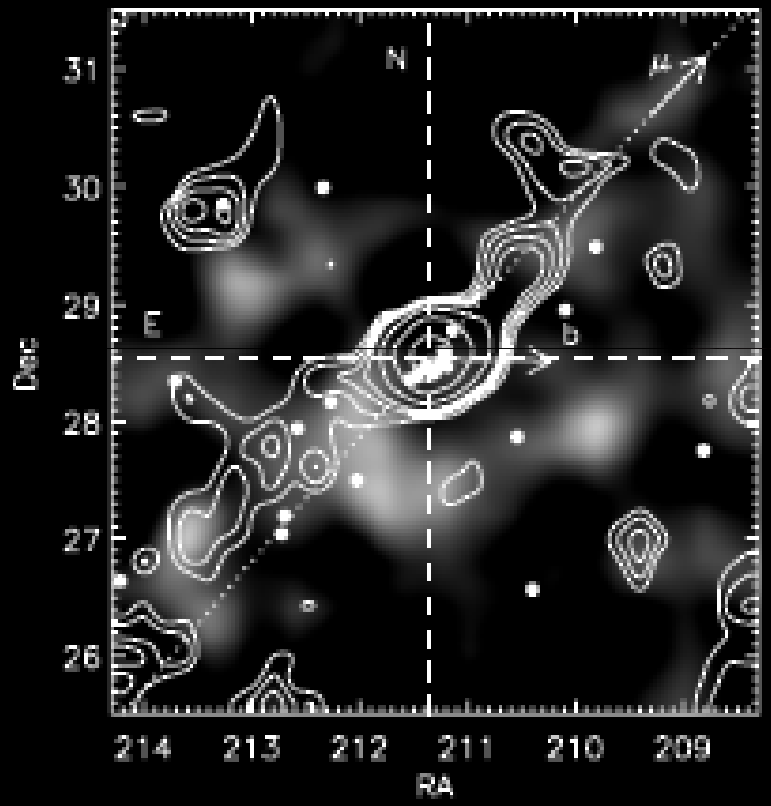

TAOの場合
CENTER OF MILKY WAY
DISKS OF MILKY WAY
AREAS OF INITIAL OBSERVATIONS
SAGITTARIUS DWARF GALAXY

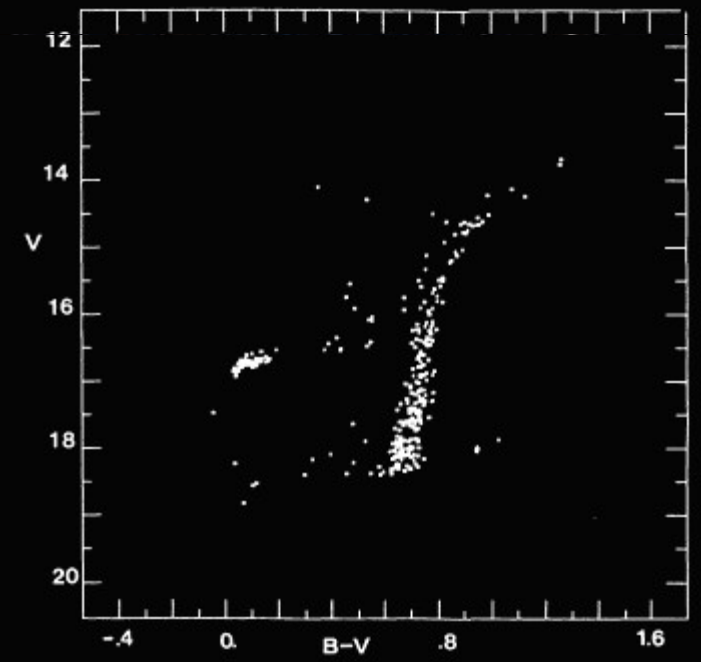
いて座矮小銀河

銀河系のストリーム構造



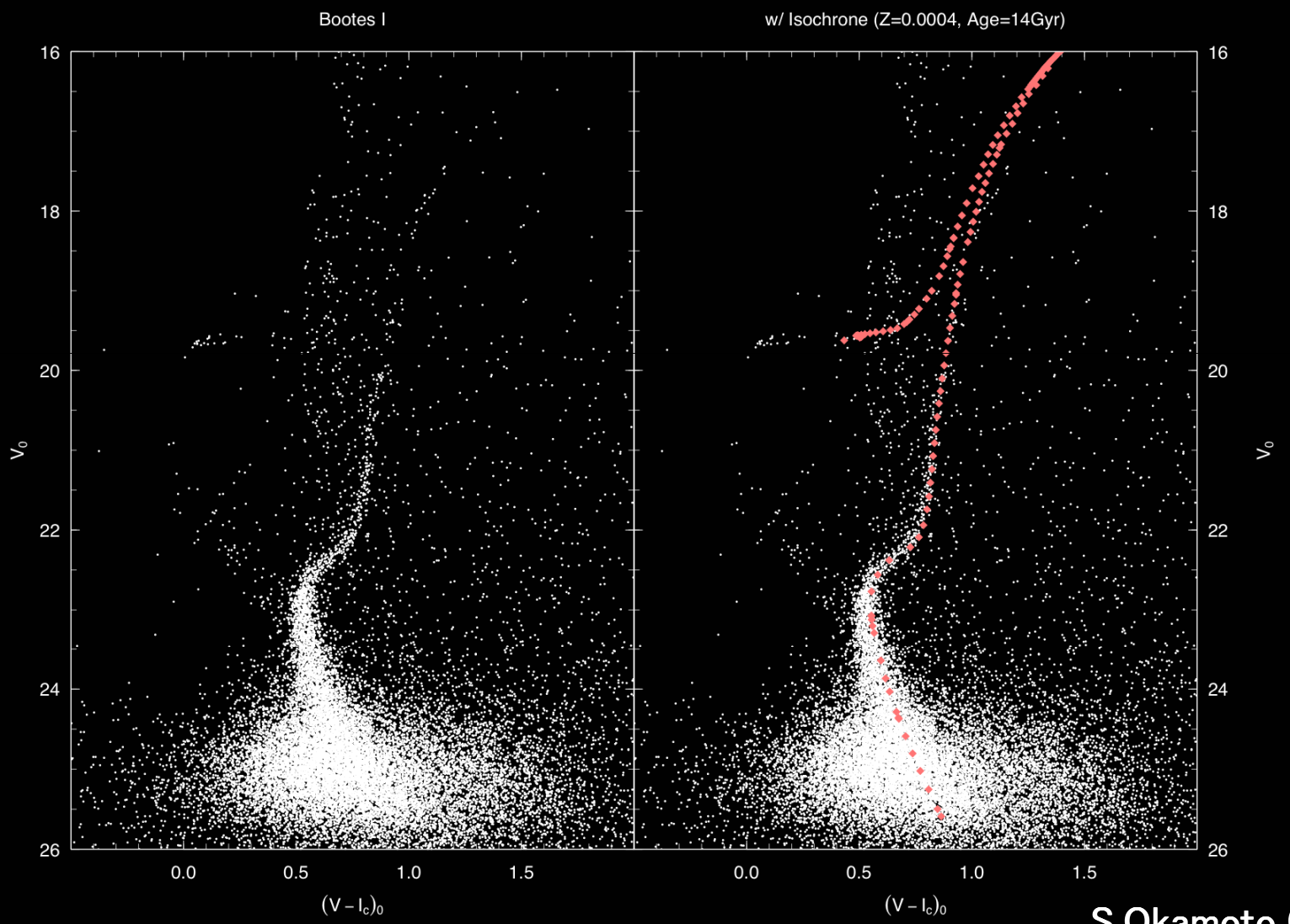
ストリーム近傍の球状星団





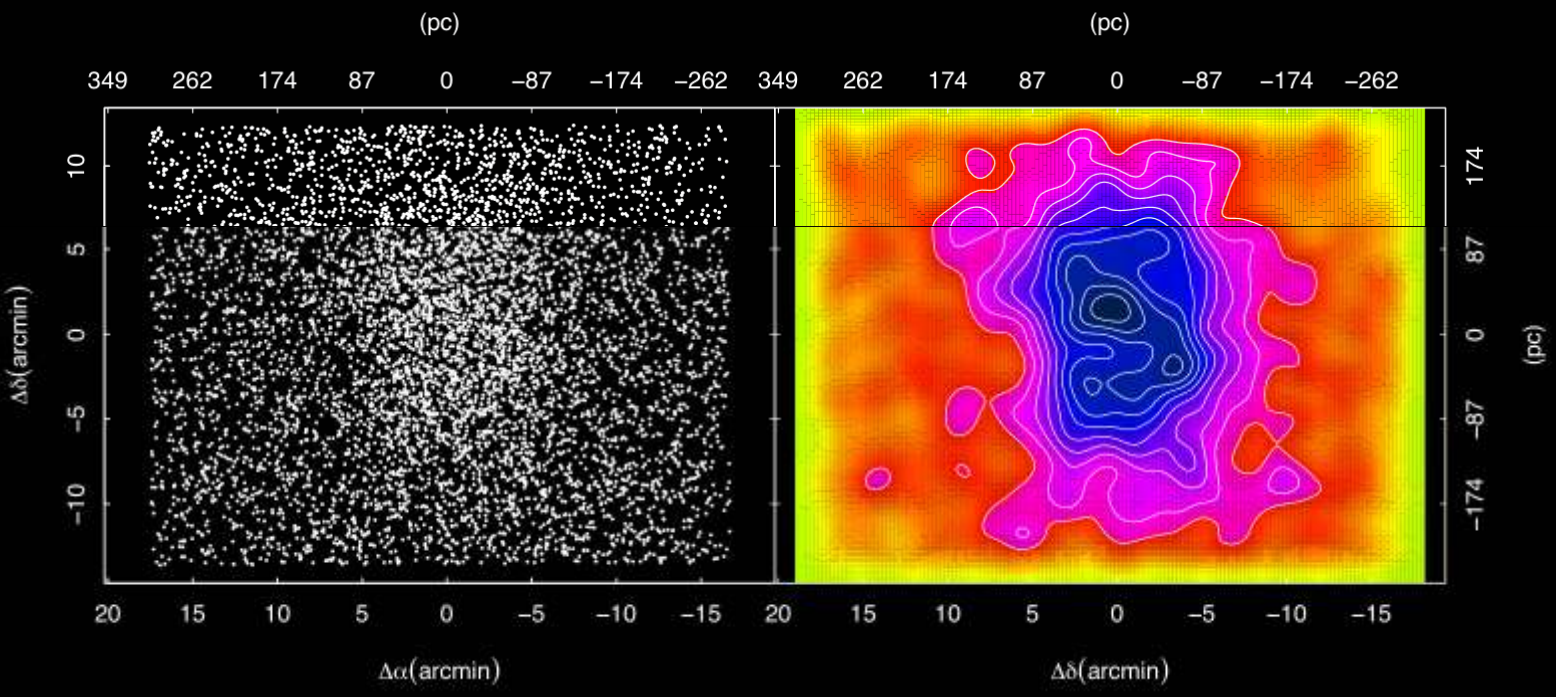
NGC5466 (Fellhauer et al. 2007)

Bootes I (UFdG)



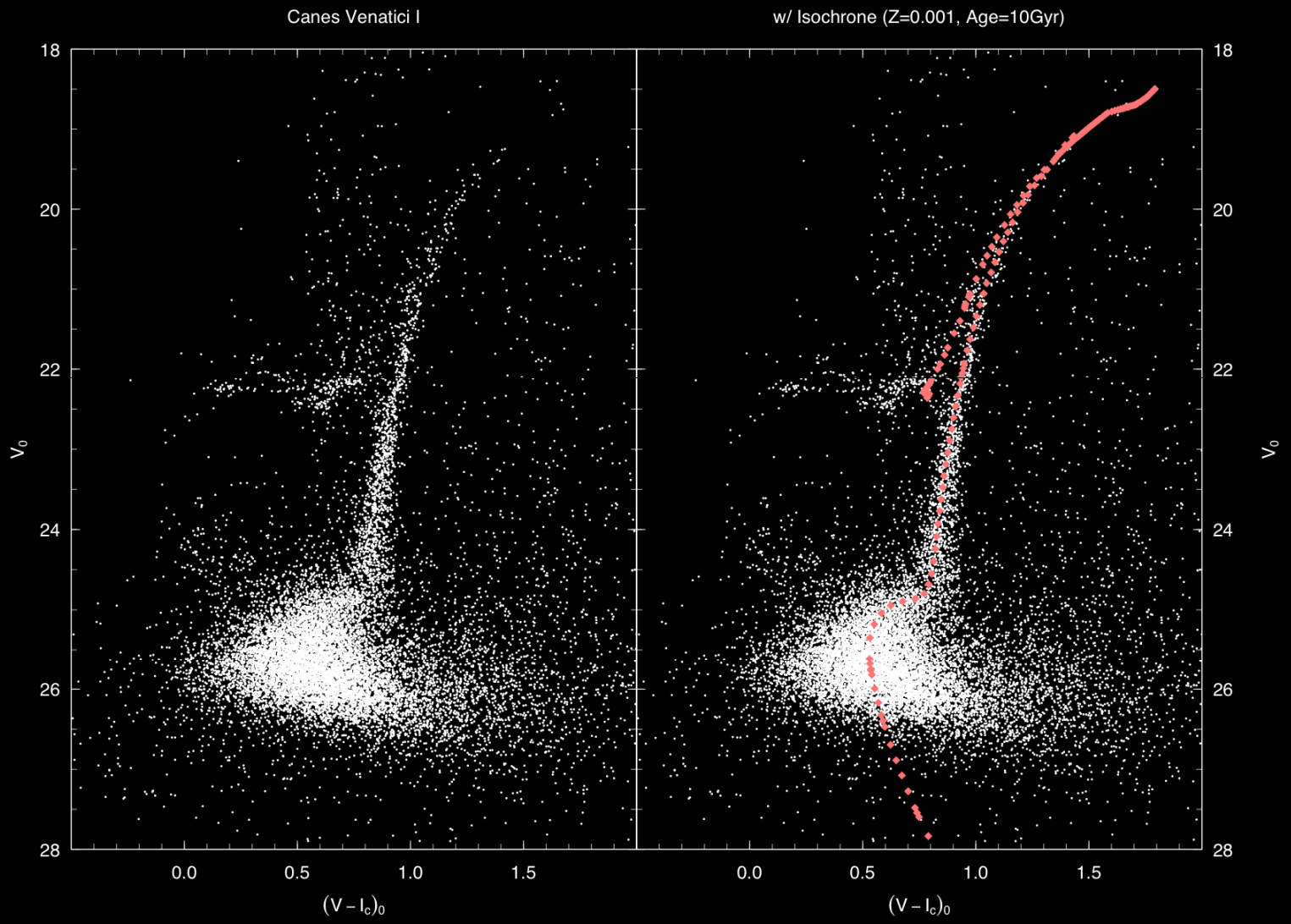
S.Okamoto (2009)

Bootes Iの空間構造



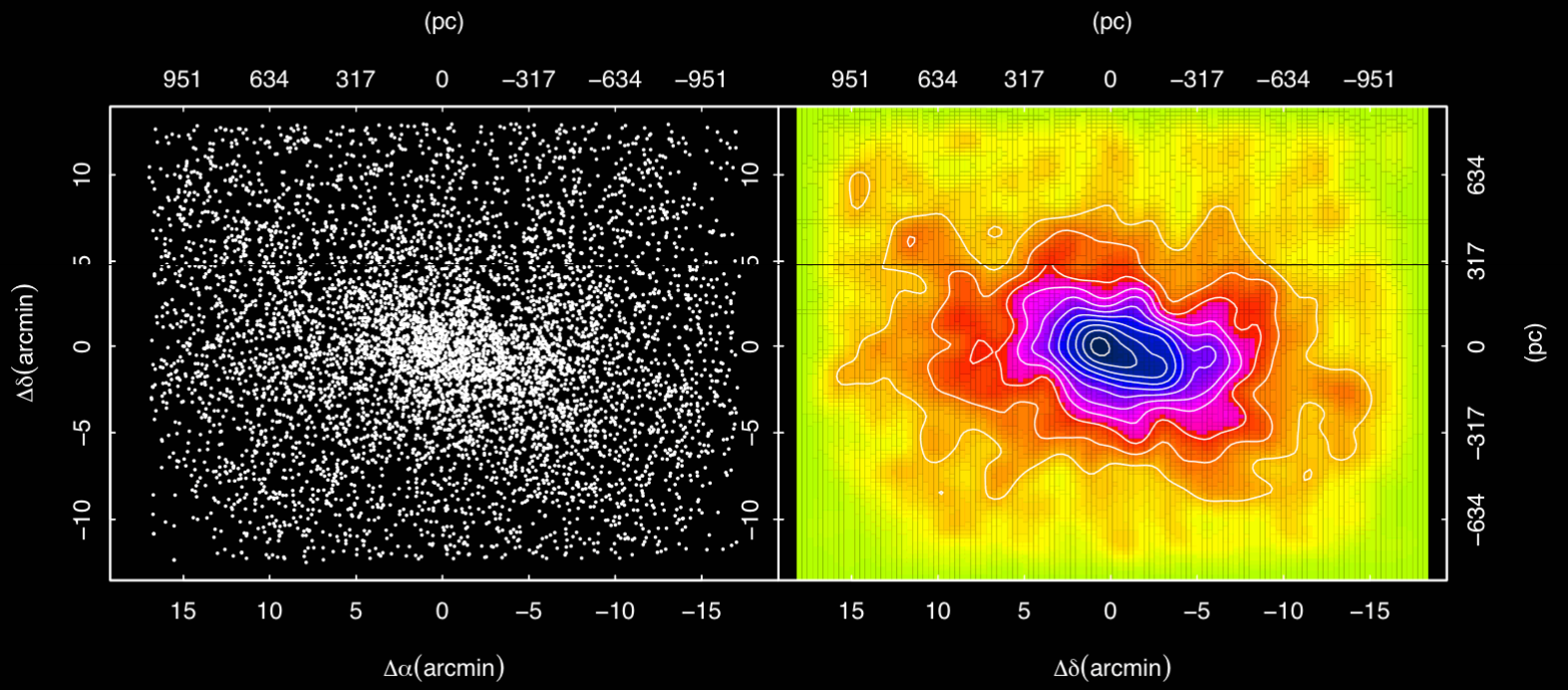
S.Okamoto (2009)

Canes Venatici I (UFdG)



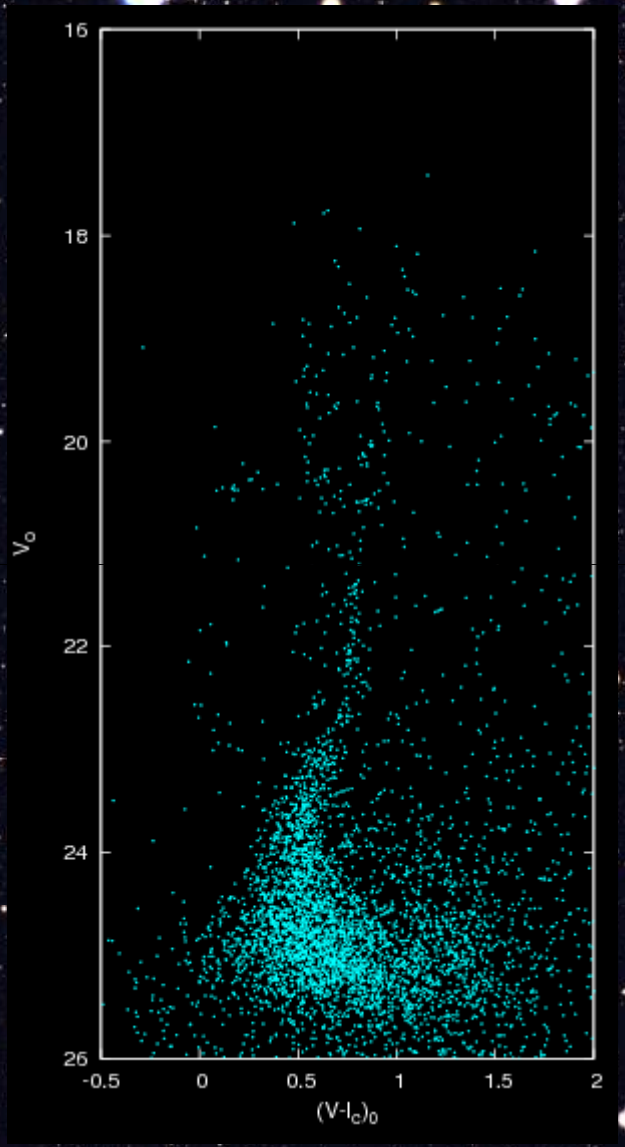
S.Okamoto (2009)

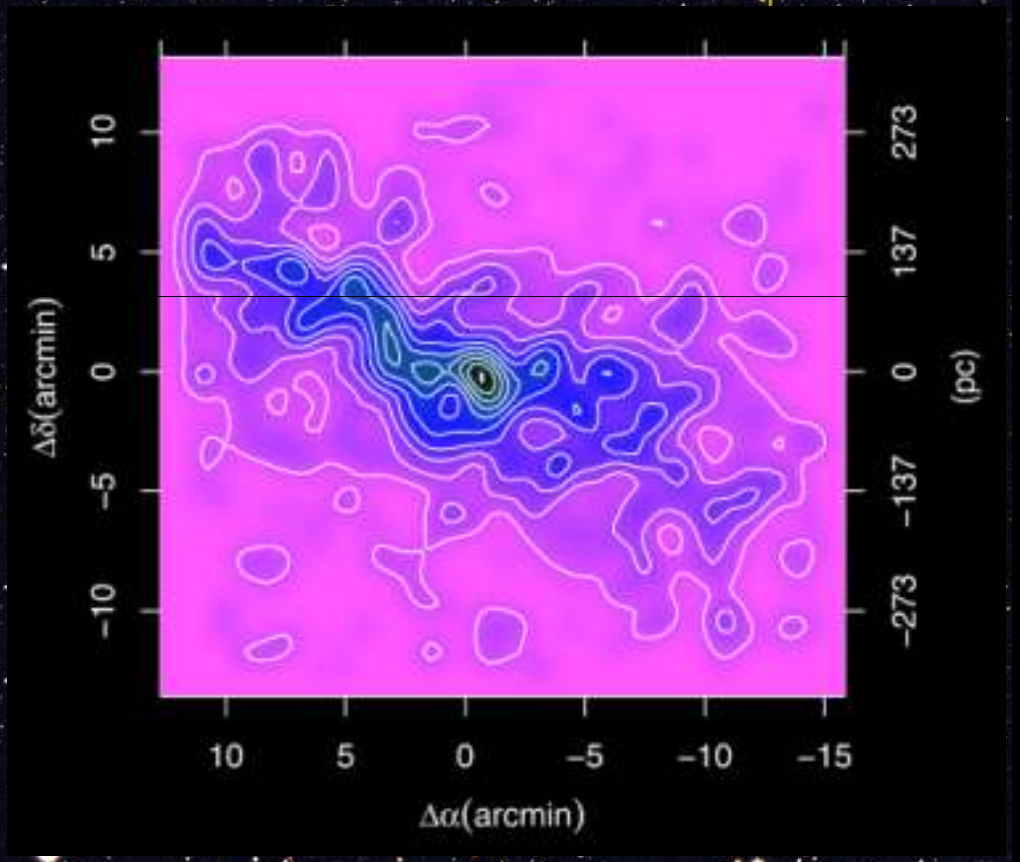
Canes Venatici Iの空間構造



S.Okamoto (2009)

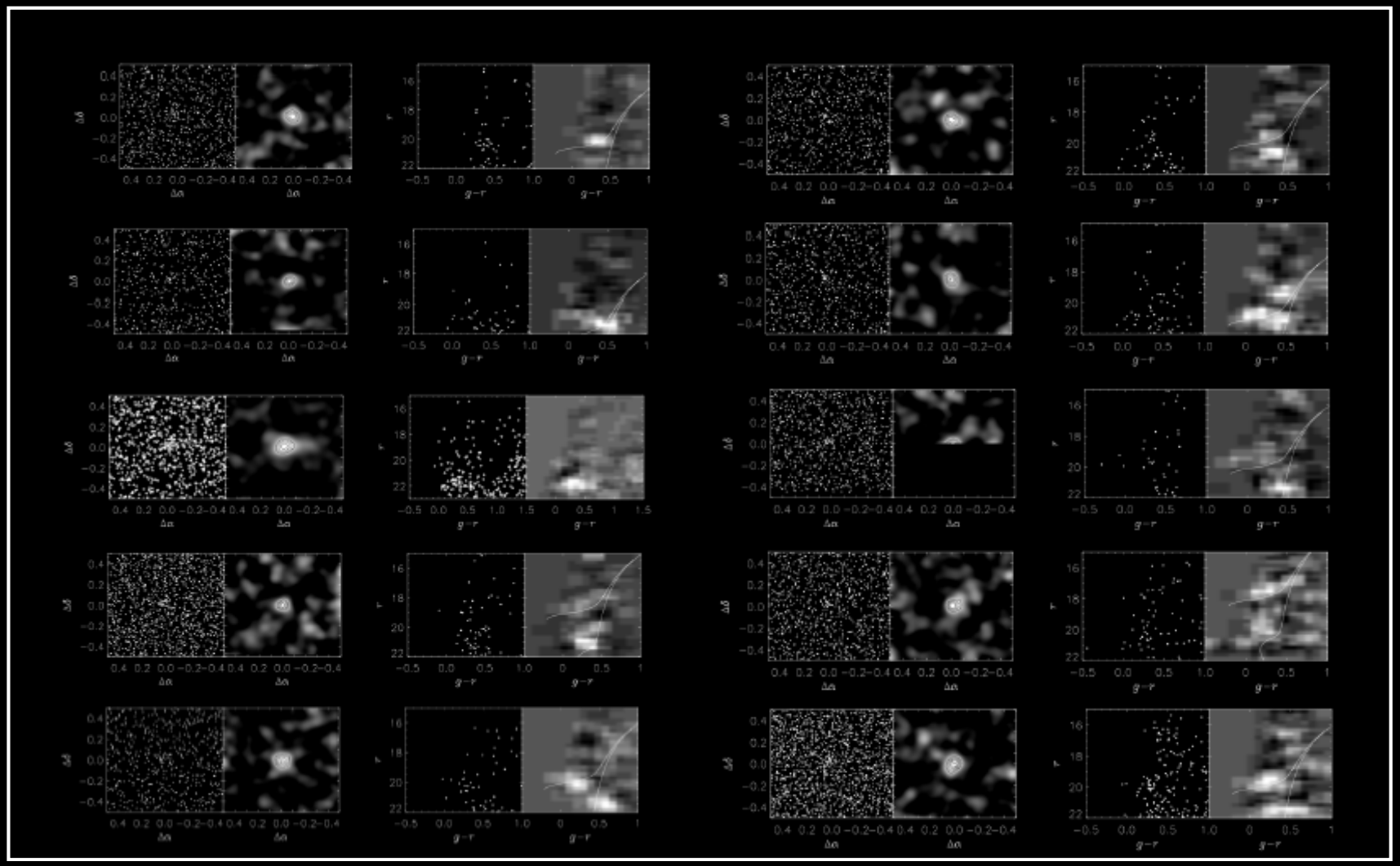
Okamoto et al. (2008)





Ursa Major (Suprime-Cam)

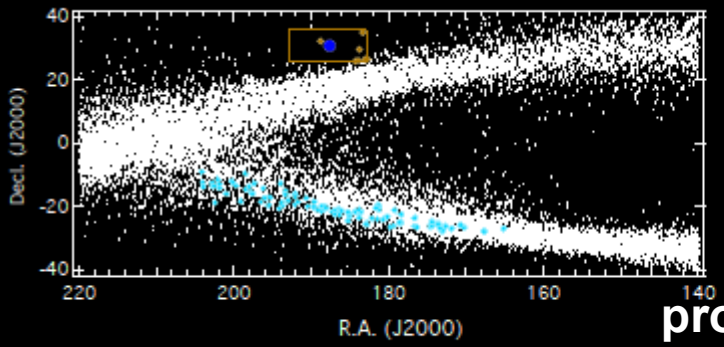
Search for New UFdGs

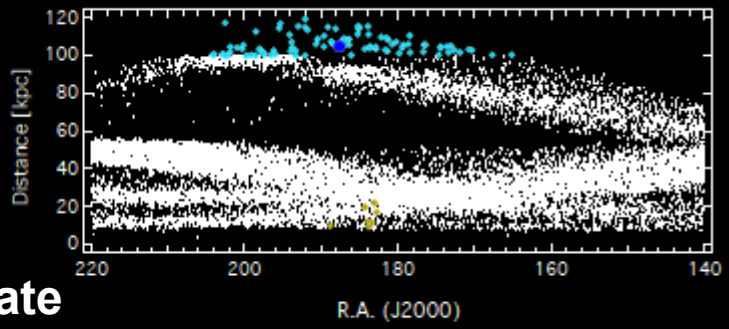


SDSS Candidates

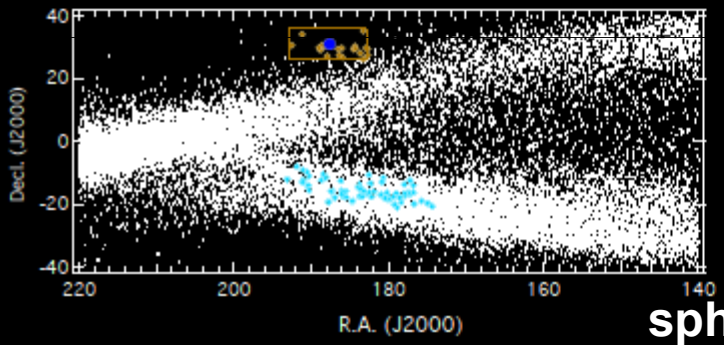
ぎんがモデルとのひかく

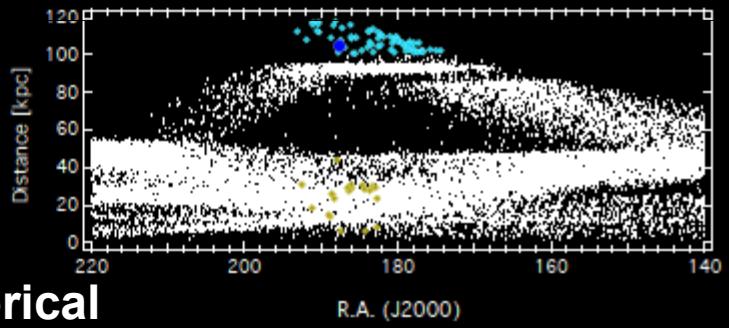
ストリームの視線速度・距離



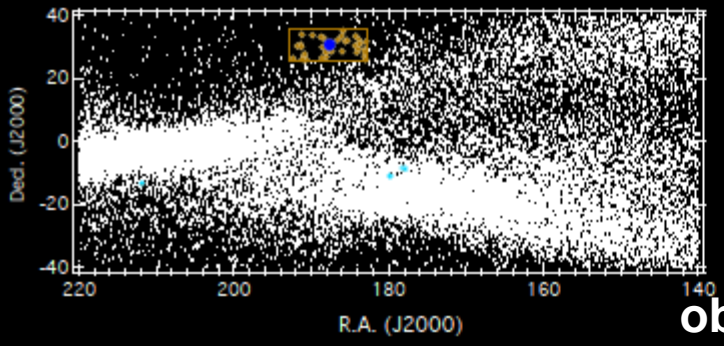


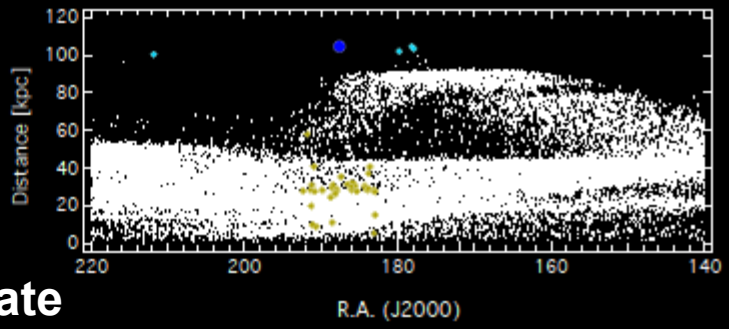
prolate





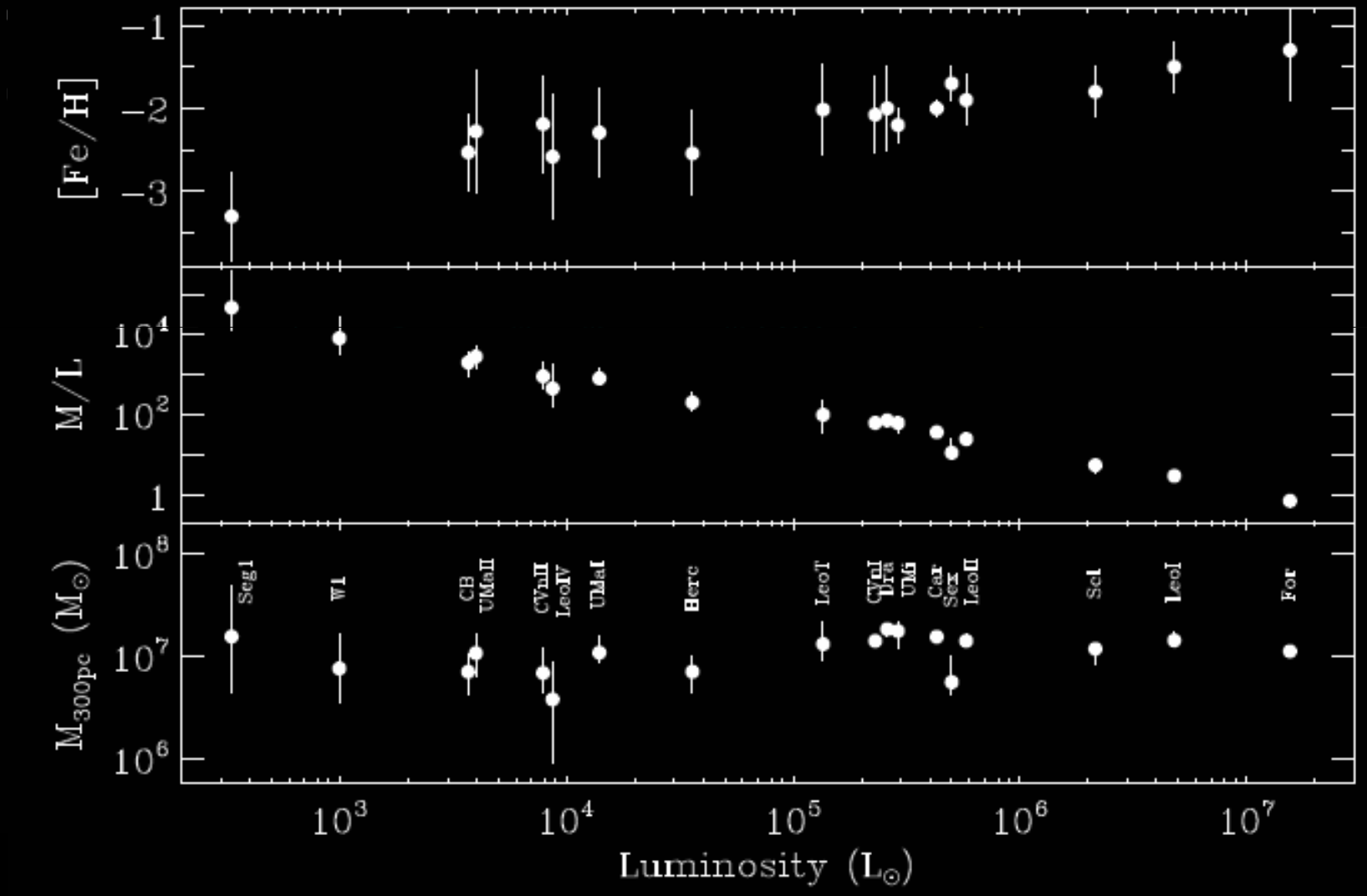
spherical





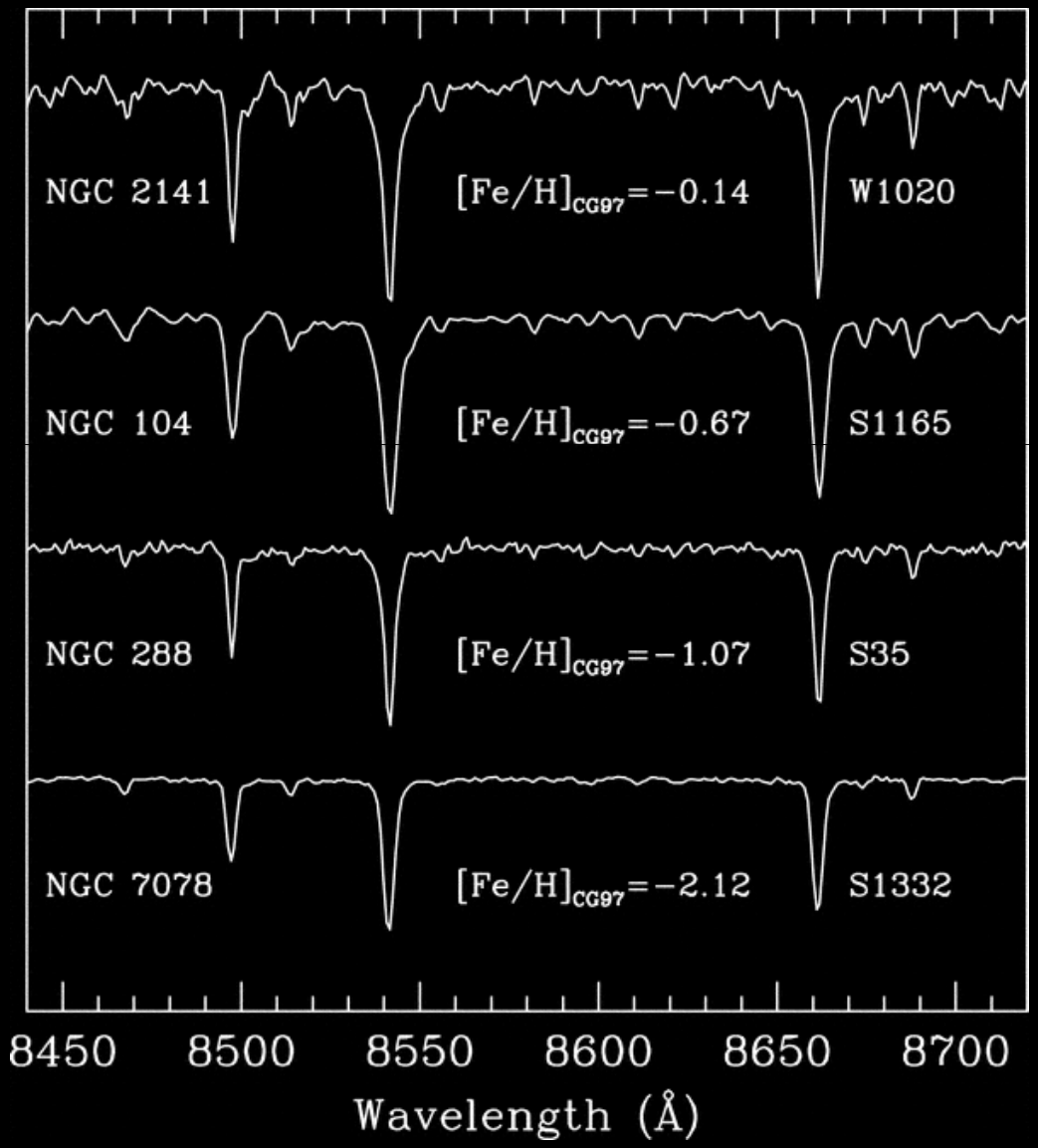
oblate

ストリーム星の金属量

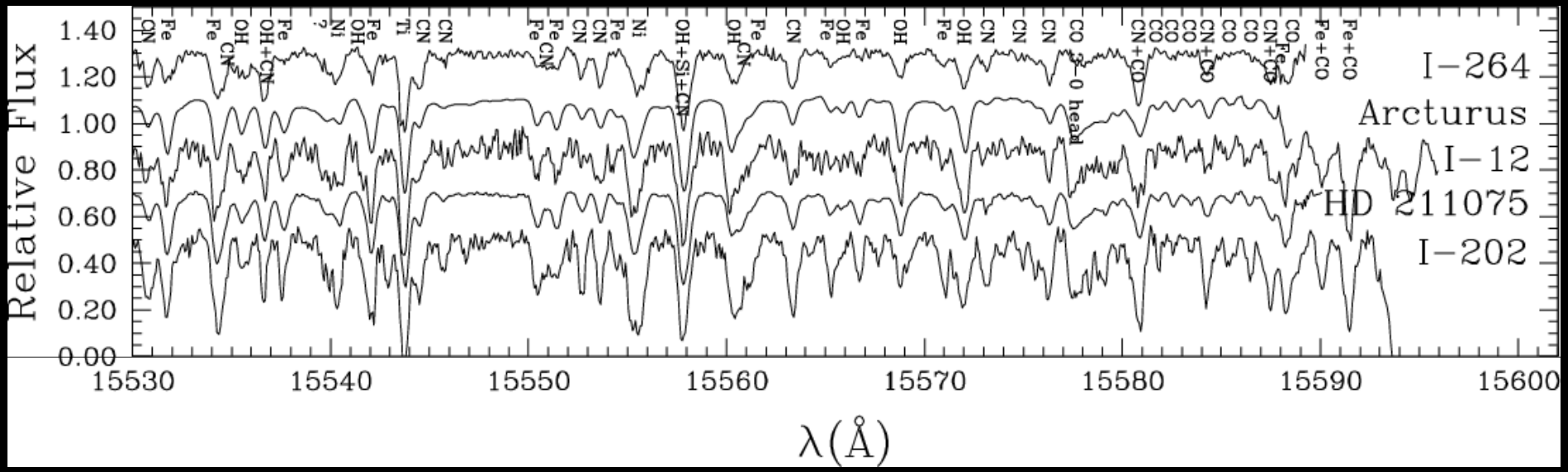

[Fe/H]
−1
−2
−3
M/L
10^4
10^2
1
M_{300pc} ($M_\odot$)
10^8
10^7
10^6
Segl
Wl
CB
UMaII
CVnII
LeoV
UMaI
Herc
LeoT
CVnI
Hya
UMi
Car
Sex
LeoII
Scl
LeoI
For
10^3
10^4
10^5
10^6
10^7
Luminosity ($L_\odot$)

Call Triplet as Metallicity Indicator

近赤外での金属吸収線



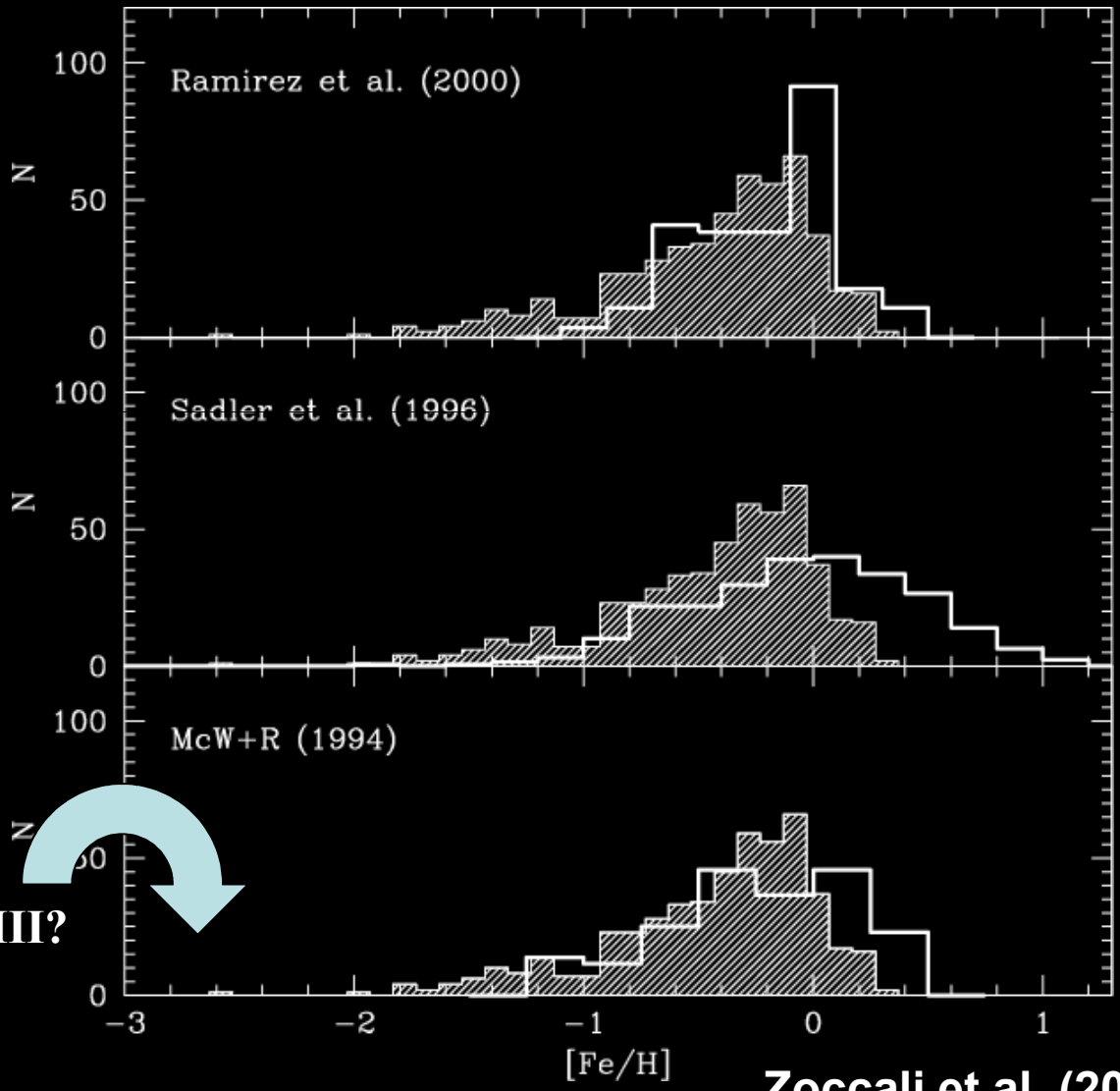
近赤外吸収線



Gemini－S/Phoenix (R=50000)

- 近赤外には原子やイオンの吸収線があまりない。
- あっても高電離の金属の吸収線で複雑で解釈も難しい。
- 多くの吸収線は正しく同定されておらず、吸収線の強度も不明である。
- その代わりに分子の吸収線があるが、TiOやZrOの吸収線はない。
- 分光器の性能は可視光域に比べて劣っている。
- 近赤外データだけから星のパラメータを決定するのは困難である。

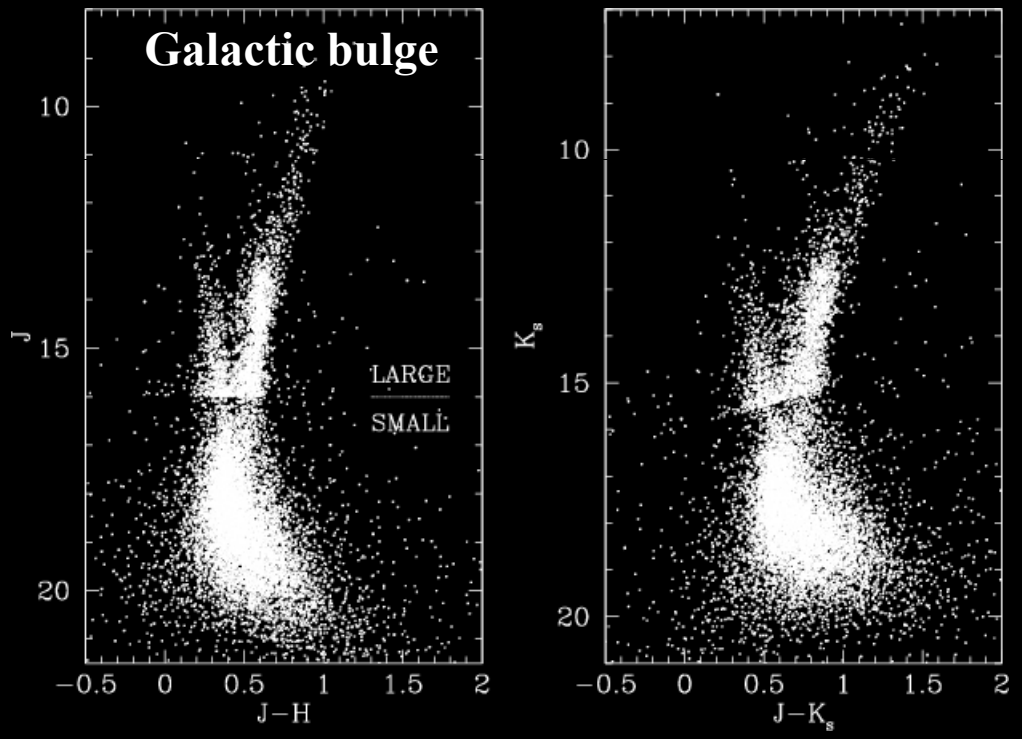
Population III stars in Galactic Bulge



Zoccali et al. (2003) A&A 399, 931

Specific Goals of HR Survey

- **Formation histories of galaxies:** stellar population study in terms of colour-magnitude diagrams (CMDs) and abundance patterns can reveal how bulge, disc and dSph's formed and evolved.

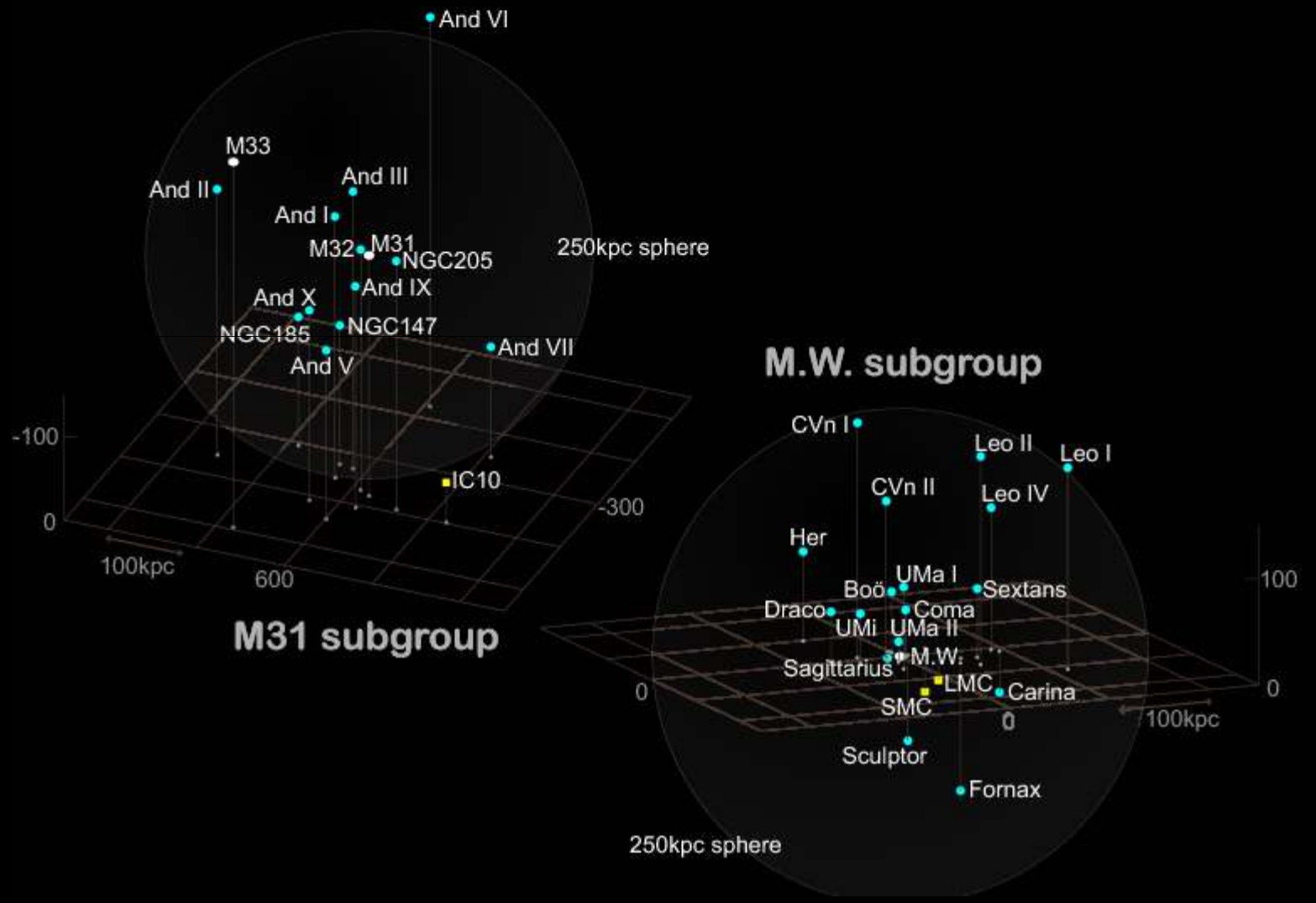


Zoccali et al. (2003) A&A 399, 931

Targeted Regions

bulges, disc, outer disc, halo, large area dSphs
disrupted globular clusters
M31/M33 large area (substructure in haloes)
Galactic streams
dwarf irregulars

銀河考古学 II 局所銀河群



つづく