Setting the scene for Gaia and LAMOST
Proceedings IAU Symposium No. 298, 2013
S. Feltzing, G. Zhao, N. A. Walton & P. A. Whitelock, eds.
© International Astronomical Union 2014
doi:10.1017/S1743921313006728

A Matched-Filter Map of the 300 km/s Stream

C. J. Grillmair

Spitzer Science Center, MS 220-6, 1200 E. California Blvd., Pasadena, CA 91125, U.S.A.
email: carl@ipac.caltech.edu

Abstract. We present a matched-filter, surface density map of the "300 km/s" stream recently discovered in the vicinity of the ultrafaint dwarf galaxy Segue 1.

Keywords. Galaxy: structure, Galaxy: halo, Galaxy: kinematics and dynamics

---

Niederste-Ostholt *et al.* (2009) showed that there were ~ 1 degree-long, presumed tidal extensions to the east and west of the ultrfaint dwarf galaxy Segue 1. Geha *et al.* (2009) first found a small number of stars in the area of Segue 1 with velocities around 300 km/s, and Simon *et al.* (2011) referred to these as the "300 km/s stream".

Figure 1 shows a flattened, background-subtracted, and smoothed matched-filter map of the 300 km/s stream, constructed from SDSS data as described in Grillmair (2009), using [Fe/H] = -1.46 and a distance of 18 ± 7 kpc (Frebel *et al.* 2013). The stream extends at least 25 degrees at distances of between 14 ± 3 kpc and 18 ± 2 kpc. Both are significantly different from the 23 ± 2 kpc distance of Segue 1 (Belokurov *et al.* 2007).

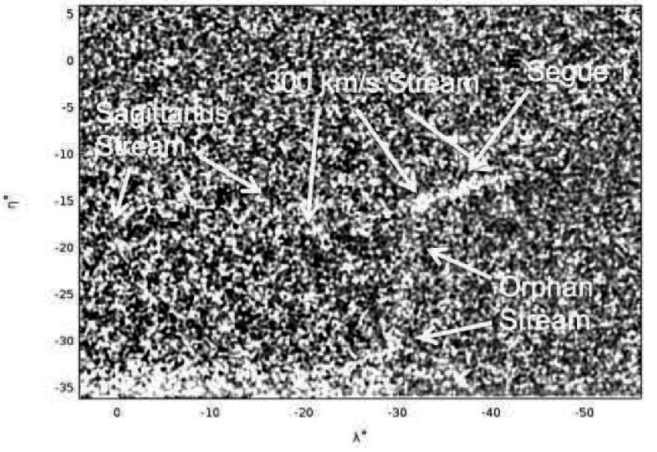

Figure 1. Matched-filter map of the 300 km/s stream in the Sloan Survey coordinate system.

References

Belokurov, V., *et al.* 2007, *ApJ*, 654, 897
Frebel, A., *et al.* 213, arXiv:1305.1300v1
Geha, M., *et al.* 2009, *ApJ*, 692, 1464
Grillmair, C. J. 2009, *ApJ*, 693, 1118
Niederste-Ostholt, M., *et al.* 2009, *MNRAS*, 398, 1771
Simon, J. D., *et al.* 2011, *ApJ*, 733, 46

https://doi.org/10.1017/S1743921313006728 Published online by Cambridge University Press