

On the correlation between line-of-sight velocity and metallicity for nearby F, G, K stars

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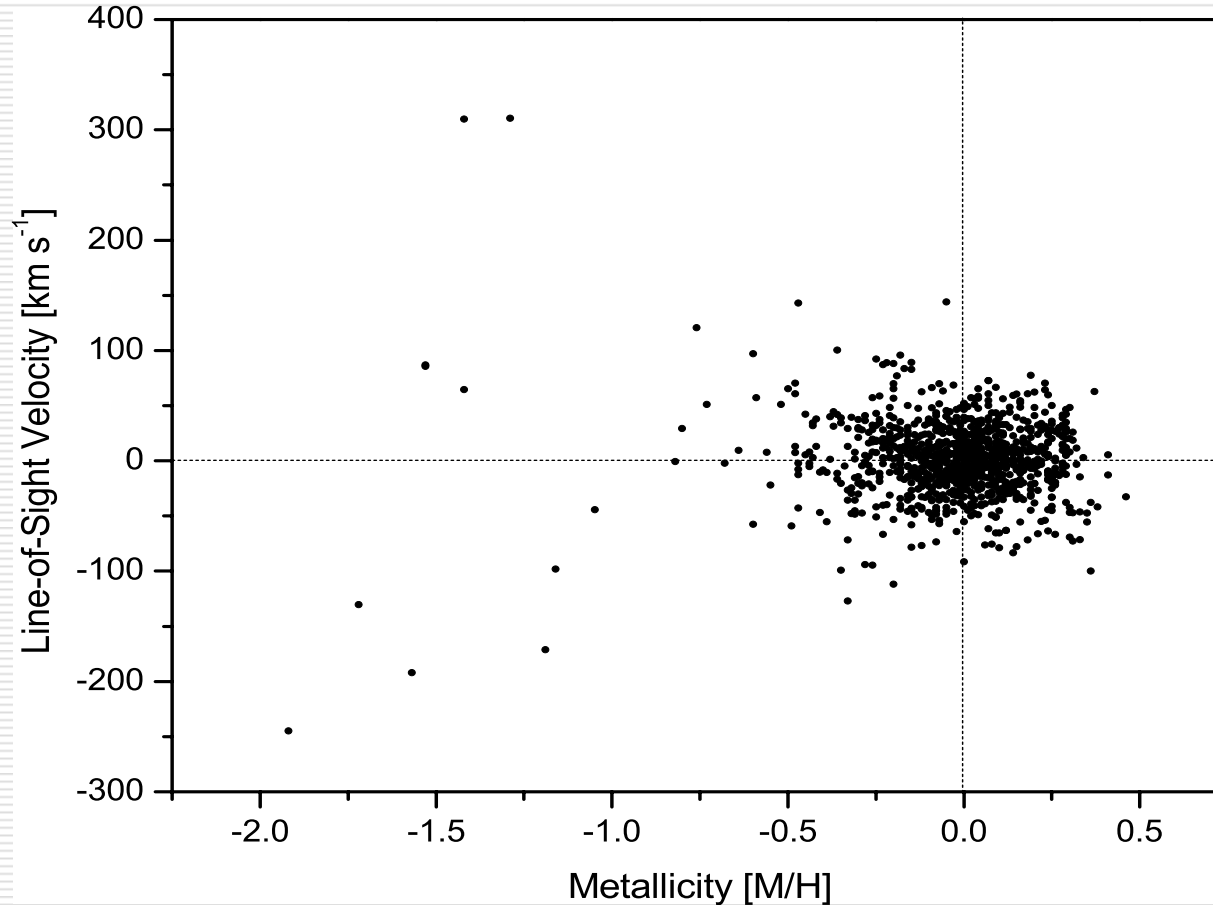
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Treated data

- Spectroscopic data from SPOCS (<http://vizier.u-strasbg.fr/viz-bin/VizieR>)
- Valenti J. A., Fischer D. A., 2005, *ApJS*, 159, 141
- 1040 stars including the Sun

Line-of-sight velocity versus metallicity for all 1039 SPOCS stars.



Percentages of galactic subsystems

- thin disc 93%
- thick disc 6%
- halo 1 %

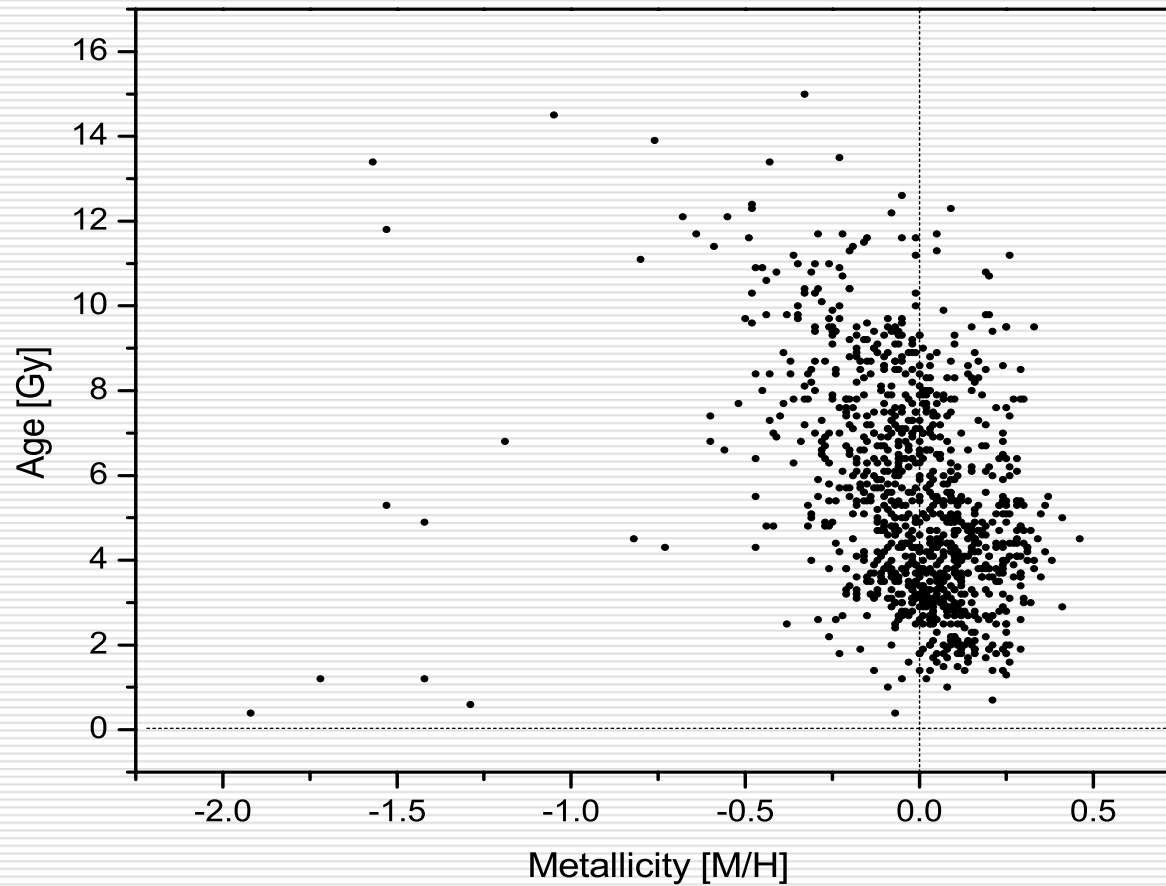
Thin disc

- Velocity ellipsoid determined on the bases of line-of-sight velocities

v_{\odot}	L_{\odot}	B_{\odot}	σ_U	σ_V	σ_W	l_V
25	70°	19°	34	22	17	6°

- First three yield Solar motion and the last one is vertex deviation

Age-metallicity relation



Thick disc

- On the average less metallic than thin disc
- Higher heliocentric velocities than in thin disc
- On the average age seems to be higher than in thin disc

Halo

- Separated most clearly
- Halo stars in this sample least metallic ≤ -0.8
- Highest moduli of line-of-sight velocities

References

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