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Testing the Milky Way's age-metallicity-velocity dispersion relation and the low-mass star age-rotation-activity relation using white dwarf ages

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Stellar ages are of utmost importance for understanding the chemical and dynamical evolution of the Milky (the so called age-metallicity and age-velocity dispersion relations, respectively) as well as to understand the physical properties of its stellar members (e.g. the age-rotation-activity relation of low-mass main sequence stars). However, estimating the ages of stars is a difficult endeavour. In this contribution we take advantage of the analysis of white dwarfs in binary systems with main sequence companions identified within the DR3 of Gaia to derive accurate main sequence companion ages. These ages, together with the main sequence observable parameters ([Fe/H] abundances, radial and rotational velocities, activity indexes) are used to test the aforementioned age relations obtained via standard methods.

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