

Talk at Splinter Meeting

Splinter I

ORIGIN OF HOT SUBDWARFS AT HIGH VELOCITY

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Hypervelocity stars (HVS) move so fast that they are unbound to the Galaxy. The spatial and velocity distribution of HVSs provides significant constraints on the shape and density distribution of the Galactic dark matter halo. When they were first discovered in 2005, dynamical ejection from the super massive black hole in the Galactic Centre (GC) was suggested as their origin. The two dozen of HVS known today are young massive B stars of 3-10 solar masses. Some highvelocity subdwarfs have attracted interest because of their high RVs, most notably, the sdO star US 708, for which an origin in the GC can be excluded, is the fastest unbound star in our Galaxy. We embarked on a kinematic analysis of further subdwarfs based on proper motion measurements using the full 6D phase space information. Their orbital properties can then be derived by tracing back their trajectories in different mass models of our Galaxy. We discuss their origins and their way of acceleration.