Simple dynamical models of the Sagittarius dwarf galaxy [A. Helmi and S.D.M. White] Amina Helmi\(^1\) and Simon D.M. White\(^2\) \(^1\) Sterrewacht Leiden, Postbus 9513, 2300 RA Leiden, The Netherlands \(^2\) Max-Planck-Institut für Astrophysik, Karl-Schwarzschild-Str. 1, 85740 Garching bei München, Germany

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abstract We present two simple dynamical models for based on N-body simulations of the progressive disruption of a satellite galaxy orbiting for 12.5 Gyr within a realistic Galactic potential. In both models the satellite initially has observable properties similar to those of current outlying dwarfs; in one case it is purely stellar while in the other it is embedded in an extended massive halo. The purely stellar progenitor is a King model with a total velocity dispersion of 18.1, a core radius of 0.56 kpc and a tidal radius of 3.8 kpc. The initial stellar distribution in the other case follows a King profile with the same core radius, a similar total velocity dispersion and a smaller extent. Both these models are consistent with all published data on the current system, they match not only the observed properties of the main body of , but also those reported for unbound debris at larger distances.