Investigating the dependency of merger time-scales and the observability of dual AGNs on the properties and orbital parameters of merging galaxies

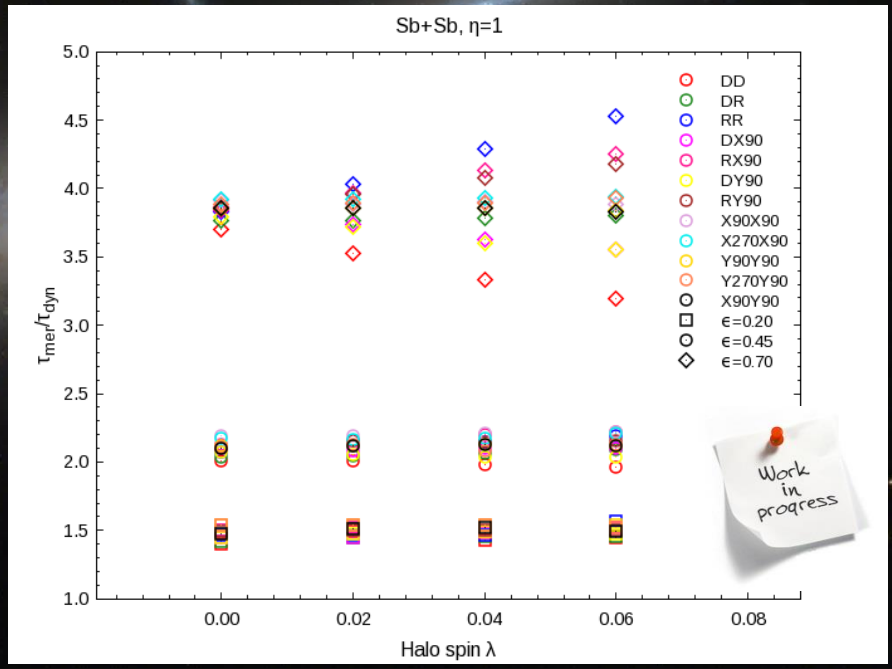
José M. Solanes, ICC-UB, Spain & **Jaime D. Perea**, IAA-CSIC, Spain

An suite of cosmologically-consistent N-body simulations of isolated major galaxy mergers is used to explore the merger timescales, τ_{mer}, over a broad range of galactic and orbital parameters, paying special attention to the role of halos' spin. We illustrate the usefulness of this sort of merger experiments by inferring predictions for the detectability of dual active galactic nuclei (dAGNs).

Main results:

- The influence of halo rotation on τ_{mer} becomes stronger with increasing orbital circularity, ϵ. It translates into a progressive increase in the scatter of τ_{mer} values, the breadth of which correlates with the degree of alignment between orbital and halo spins.

- Early-type galaxies exhibit shorter τ_{mer} than late-type objects. The difference is, however, noticeable only at low ϵ.



- The predicted frequencies of uncorrelated dAGNs are relatively insensitive to the configuration of the encounters, showing always very low values in agreement with observations and therefore supporting the hypothesis that significant nuclear activities are triggered mostly via major mergers.