Impact dynamics of liquid marbles JEREMY MARSTON, TINKU SUPAKAR, Texas Tech University — The impact of particle coated droplets (a.k.a. liquid marbles or armored droplets) onto solid substrates is assessed experimentally with high-speed video. The impact is characterized by the maximum spread diameter, which conforms to scaling laws in terms of the impact Weber number, meaning that the marbles behave similar to water droplets during this stage. However, the motion of the particles across the surface allows us to observe both clustering and divergence of the particle shell and, in particular, we observe the formation of arrested shapes (i.e. jammed interfaces) after impact onto hydrophobic surfaces, from an initially spherical shape. In this case, we postulate that the speed of retraction and rate of change of surface coverage is a key ingredient leading to arrested shapes.