# Data

* ice/dirt = 0 restitution, wood = 0.01 restitution, metal = 0.1-0.2 restitution.
  + density in g/(cm)3
  + ice d=.92 f=.01 r=.01
  + dirt d=1.5 f=.7 r=.01
  + steel/iron d=7.8 f=.3 r=.5
  + wood d=.65 f=.4 r=.1-.4
  + rubber d=1.5 f=.5 r=.73
  + glass d=2.4 f=.4 r=.4
  + stone d=2.5 f=.5 r=.2
  + sea level air d=.001225 f=0 r=0
* Asteroid: d=3.5±1.8 (depending on metal drop) f=.4 r=.2±.18 (depending on metal drop)
* Engine: d=3.9, Hollowed vessel: d=.7,
* ship f=.3 r=.5
* ship d=.8(wing/connector) 3.5(engine) 5.0(fuselage)
* bullet d=.4

# New Features

* custom ThrowAssert
* for each explosion particle, query the texture for the color to use.
* randomly vary lifetimes and fadeOuts of explosion particles
* COMPONENT\_FADEOUT\_ON\_DESTROY
* triangulate.cpp could be used for breaking bodies (or I could do custom breaking based on fixtures)

# Improvements

* Better DrawCircle
* hash the location or tile position and use the hash output to generate the star positions
  + (so that it looks the same when you return to the same location, and always looks different when you go to a different location)
* Replace glPointSize and glLineWidth with something more reliable.
* Decrease viewport size and all objects’ sizes to make max velocity bigger.