

The goal of this work is to create a program which simulates the dynamics of rigid bodies and their systems using GPGPU with an emphasis on speed and stability. The result is a physics engine that uses the CUDA architecture. It runs entirely on the GPU, handles collision detection, collision response and different forces like friction, gravity, contact forces, etc. It supports spheres, rods (which are similar to cylinders), springs, boxes and planes. It's also possible to construct compound objects by connecting basic primitives.