

Particles Exercise 2 | Storm Slawson Villasmil

1/24/2024

Houdini Version: 19.5

Reference Video: <https://www.youtube.com/watch?v=7JOgdpQbC8k>

Render Data |

Renderer: Redshift

Average time per frame: 5-7 Minutes

Resolution: 2560 x 1288

Bucket Quality: High

Reference:

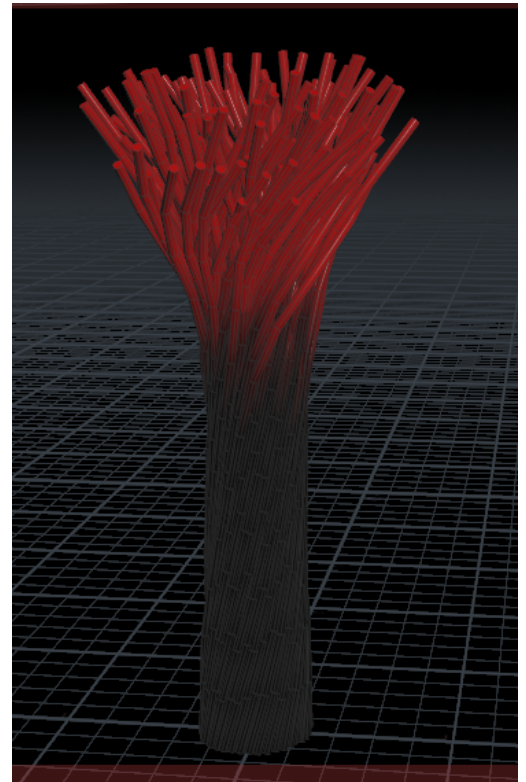
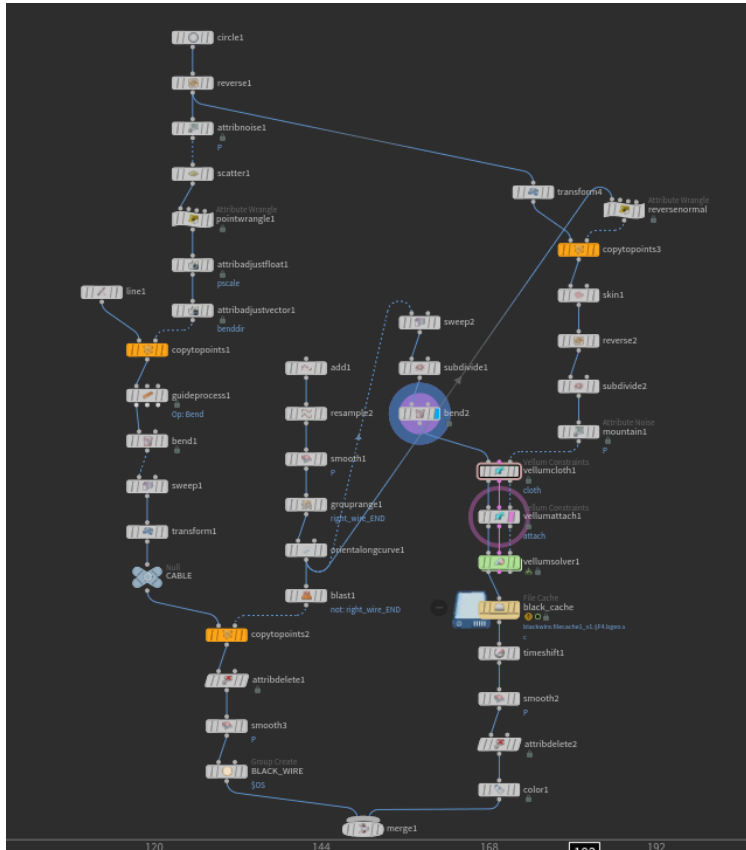


Render:

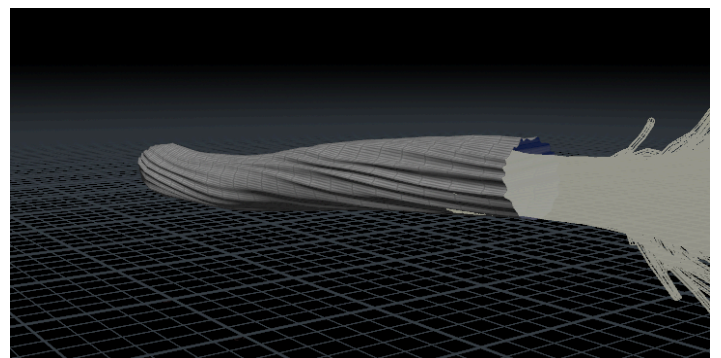
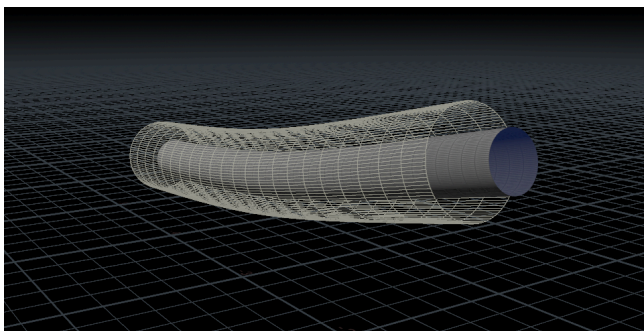


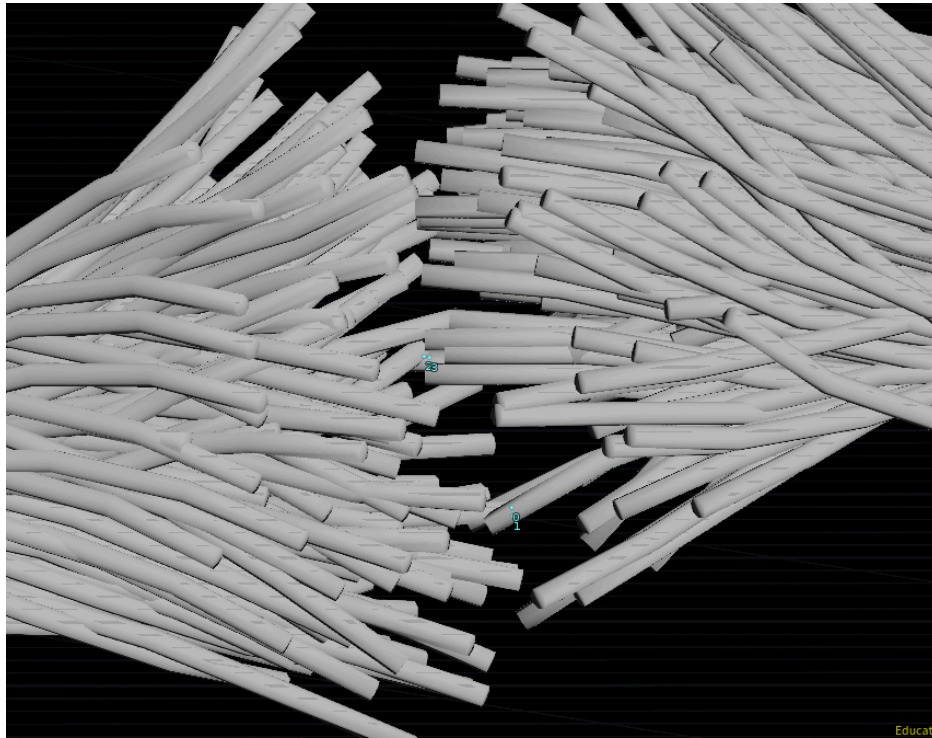
Technical Guide | Wires

In order to get frayed and bent wires i created a procedural setup copying lines to points and then bending them using attributes



To get the wrap around the cable I did a Vellum attachment and compressed a cloth object over a curve. This setup is mostly procedural, all being created from a curve.

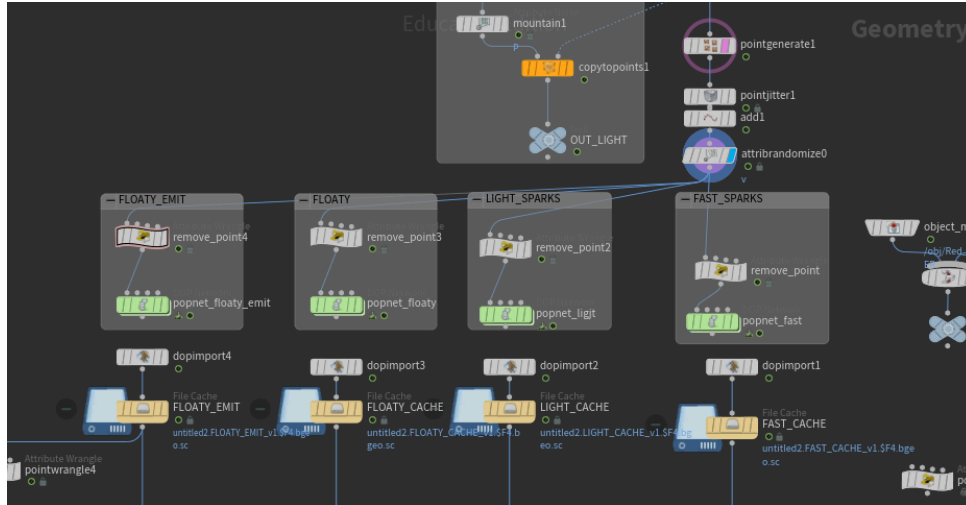




Points are isolated by grouping and blasting the intersection



Isolated points are multiplied and randomly scattered and given random velocities



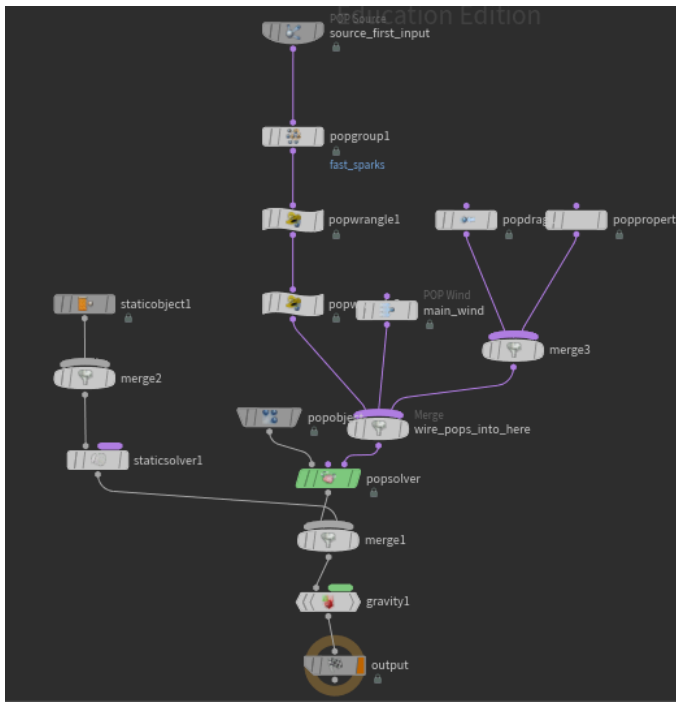
Fed into a wrangle and popnet for each type of spark

```

VEXpression
1 float v_scale = chf("vscale");
2
3 if ( rand(@ptnum) > ch('threshold') ) {
4 removepoint(0,@ptnum);
5 }
6
7 @v = @v * v_scale;

```

Inside the wrangle I can randomly reduce the amount of points to fit the type of sparks along with scale their velocity



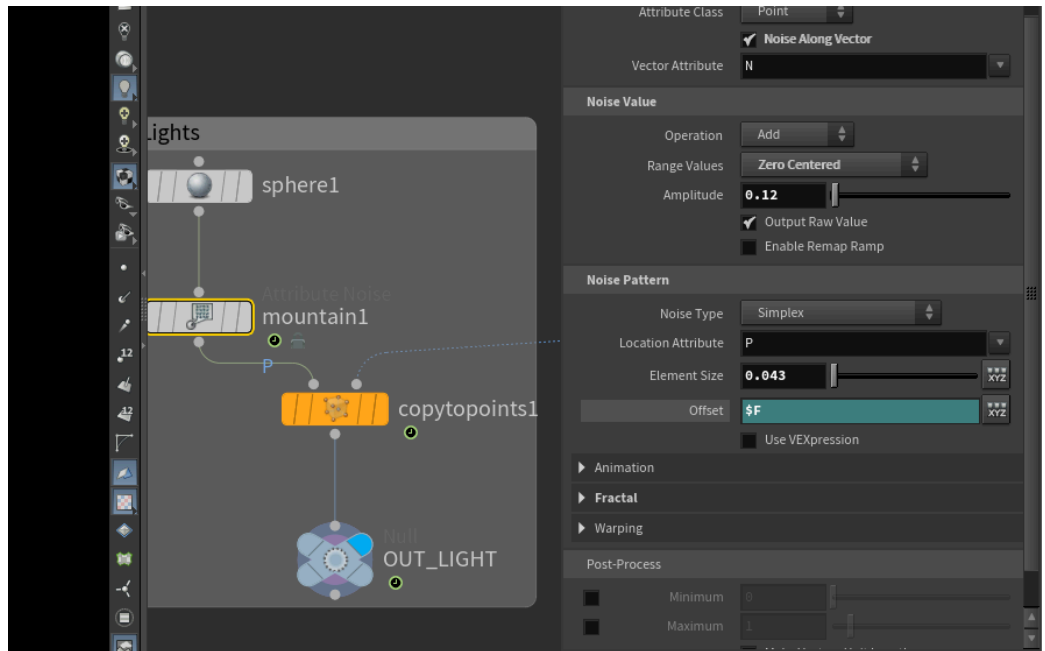
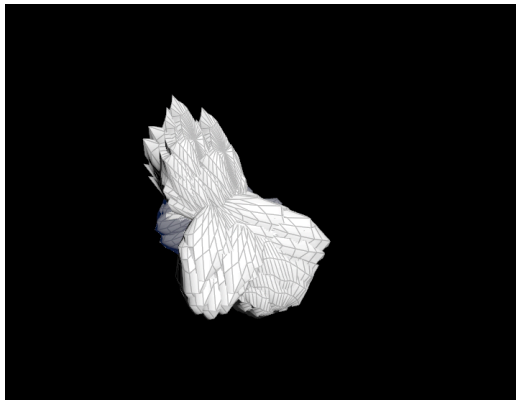
Popnet setup, same across all simulations just changing values around. Inside the wrangles I set up more control for life and velocity. Simulation time was very quick due to the small amount of particles for each different layer, it was nearly real time which made iterating a fast process.

After simulation I used Houdini 19s particletrail node (<https://www.sidefx.com/docs/houdini/nodes/sop/particletrail.html>), which made it easy to set up color, trails, and scaling for each particle. Each layers setup was a little different.

After merging all of them together I give the particles an emissive material.

Technical Guide | Light Arcs

In order to get the flashing light arcs I copied a sphere which is mounted every frame to give an erratic look to the intersection points

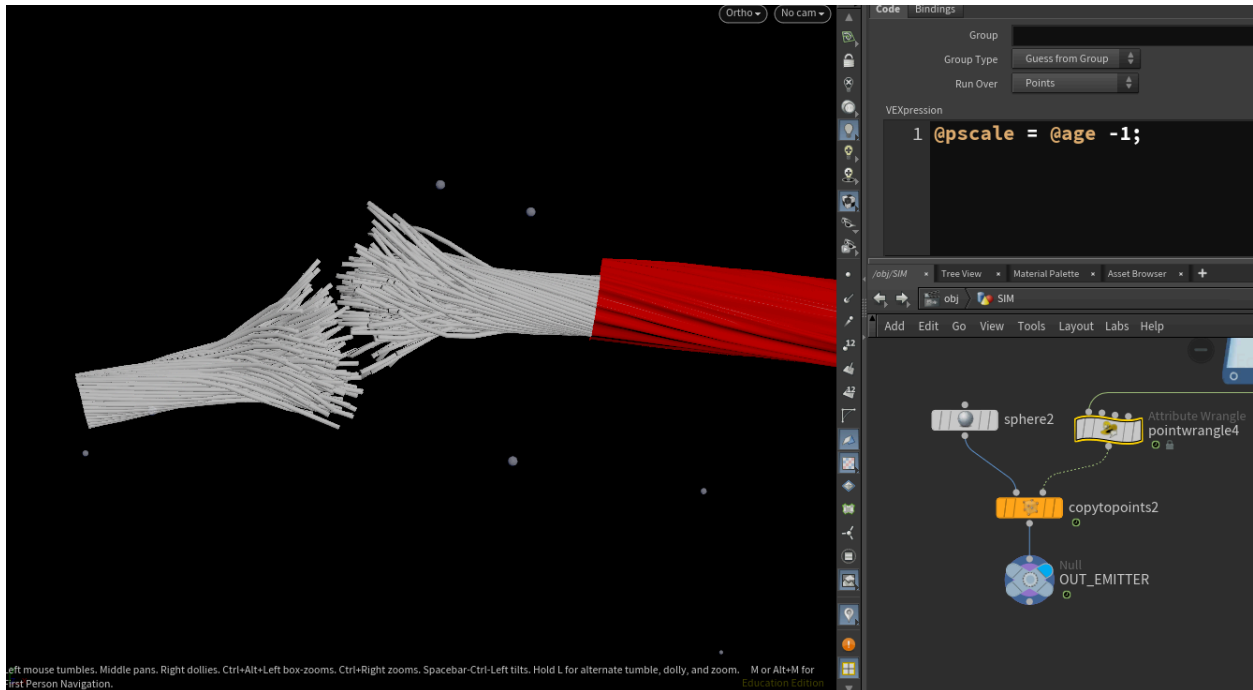


These spheres are then turned into a meshlight

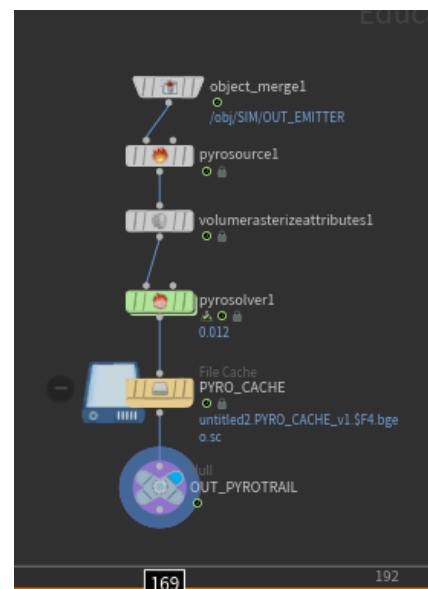
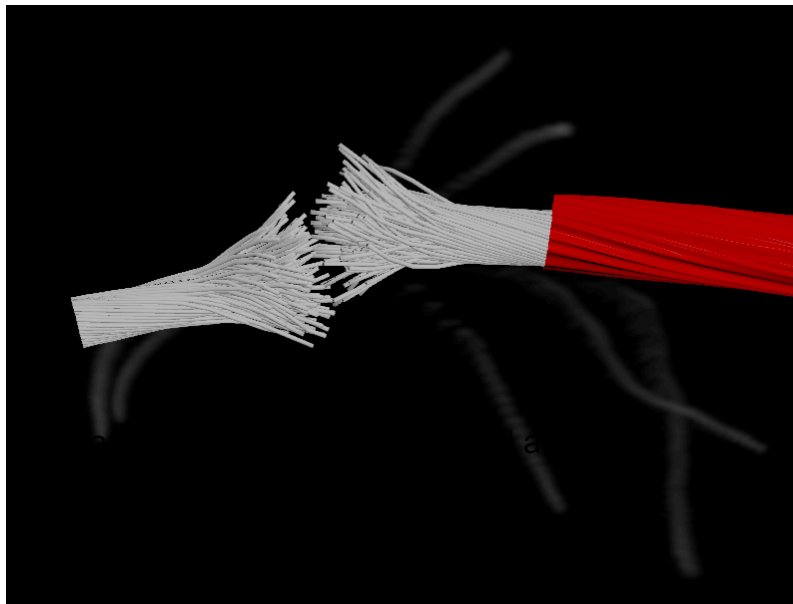


Technical Guide | Pyro

In order to get the source for the smoke I copied a sphere to one of the floaty spark simulations specifically made to use as an emitter.

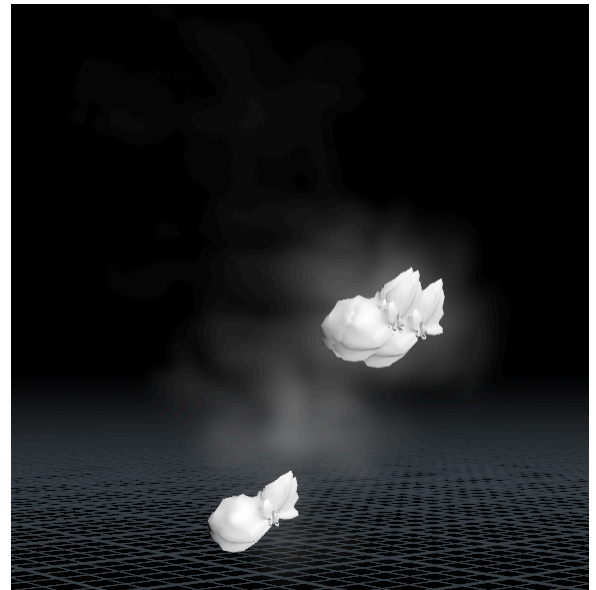
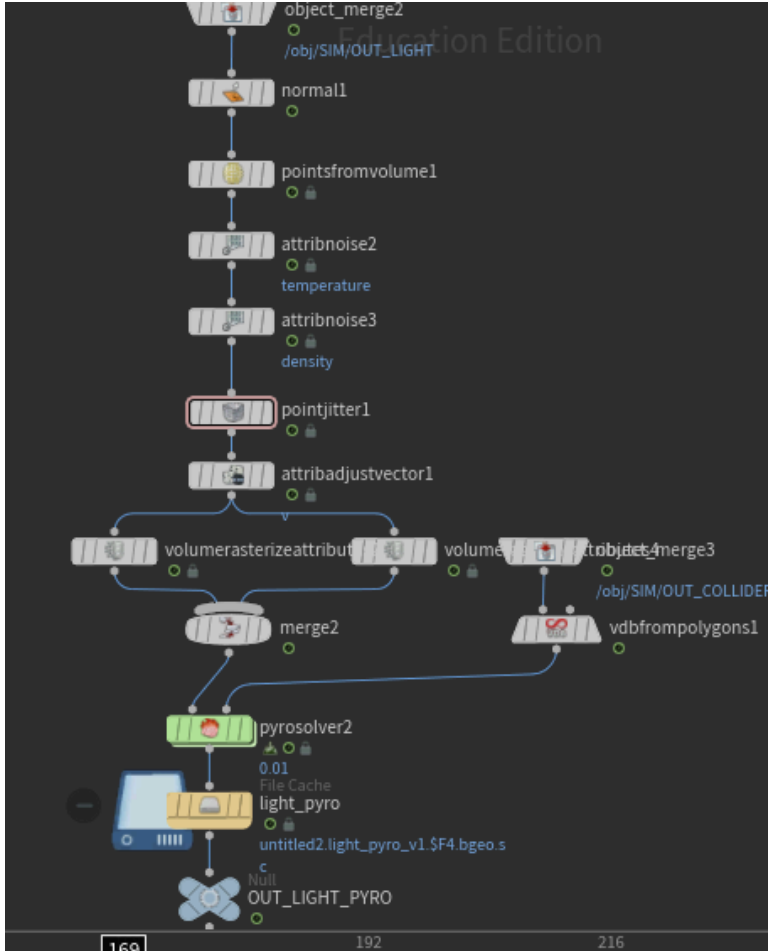


Simple pyro setup and viewport view



Technical Guide | Secondary Light Pyro

In order to get a small haze around the contact points there is smoke emitted from the deformed spheres that are copied at the contact points



Technical Guide | Compositing

A little compositing to make it pop

