Rail Guns Circa 1987

A few years ago, when I was still at Chico State, I was doing some work with small rockets and surplus TOW anti-tank missile wire-spools... we'd fire miles of hair-thin copper strand into the thunderheads of the eastern Sierras. The ridges are pretty bare and lightning strikes tall cottonwoods almost every afternoon in someplaces. The canyons get littered with debris from splintered trees.

What we were after was a directed strike. We had these simple home-made VLF radio sets--what weather freaks and meteorologists use to listen to storms, stereo headphones so we could track the whistlers, the humms and shrieks of radio noise that build up inside the thunderheads. After a while we got used to using the whistler-detectors and could get a good idea when there would be a lightning hit. Then, by remote control from a good distance away, we'd send one of these homemade rockets (mailordered f100 solid fuel engines) into the thunderhead, trailing the wire.

The strike vaporized the wire, but that left a plasma trail down to the ground (all lightning strikes leave a trail of superheated air, plasma, that the return current from the ground follows back into the clouds, to equalize the charge. What the wire was doing was laying down a straight path for us.) We could measure the current in the strike by how much the rocket launching pad melted.

We visualized ourselves as a bunch of techno-shamans, dancing naked on high on a mountain ridge in the dark afternoon thunderstorms of the Plumas National Forrest, painting our faces and bodies, drawing the magick runes on our rockets and pulling lightning straight out of the sky.

Well I had this friend Joe who was doing some work for lanl and livermore at the time, and I was telling him about this project wondering where to got next with it With all those millions of joules of energy in a lightning strike, what do you do with them? Joe was doing some calculations on his napkin. Before I knew what the fuck was really going on there we were on that ridge, naked, same paint, same symbols, same rockets. But this time with a bottle of liquid nitrogen and a 2-meter staff made of two parallel rods of some superconducting material pilfered from a collider at Livermore. Joe ceremoniously placed the copper bottomed teflon block in the railgun staff, I turned the valve on the little pressure bottle to charge it with the nitrogen. We all ran the fuck away from the contraption nearly tripping on the tension-web that held the staff in place.

Since it was Joe’s idea, when we heard the whistler build up in the thunderhead over our headphones, he was the one who pushed the button. Ear plugs would have been a good idea, not so much for the 'muzzle-crack' of the gun but for the sound of splintering granite deep in the rock of the next ridge. We were showered with gravel and pieces of trees, and wondering why the tension structure we built to aim the railgun failed. Instead of firing that little plastic block into space like we planned, the rail gun fell over, the projectile cut a large crater in the hill opposite us. We packed up, put our clothes on, and took off without so much as washing the paint off out bodies. We didn't want to get stuck with explaining how and why we damaged so much park sevice property...

I guess we're not going to be connected with that crater, if anyone found any traces of plastic in there they aren't saying. Anyway I just want to put in my vote for building whatever you want to build, as long as you're pretty careful, the govt will be too stupid to stop you until its too late. They fired Joe for stealing the collider magnet coil eventually, but he's up to a lot more nowadays than riding herd on a herd of subatomic particles.

Mycal