

(unfinished, WIP): A cheap source of silicon carbide heating elements and other musings on ceramics

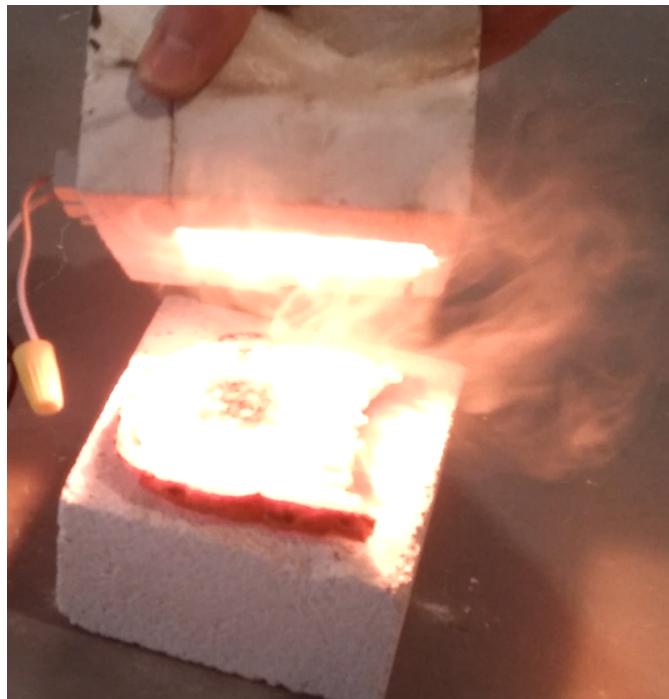
[1]

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Sorry about the LaTeX - it's just the only reasonable way of automatically dealing with references! This is very much unfinished; I figured I'd just write down the

Hi!

A little while ago I was lucky enough to spend some time tinkering with high-temperature ceramics.

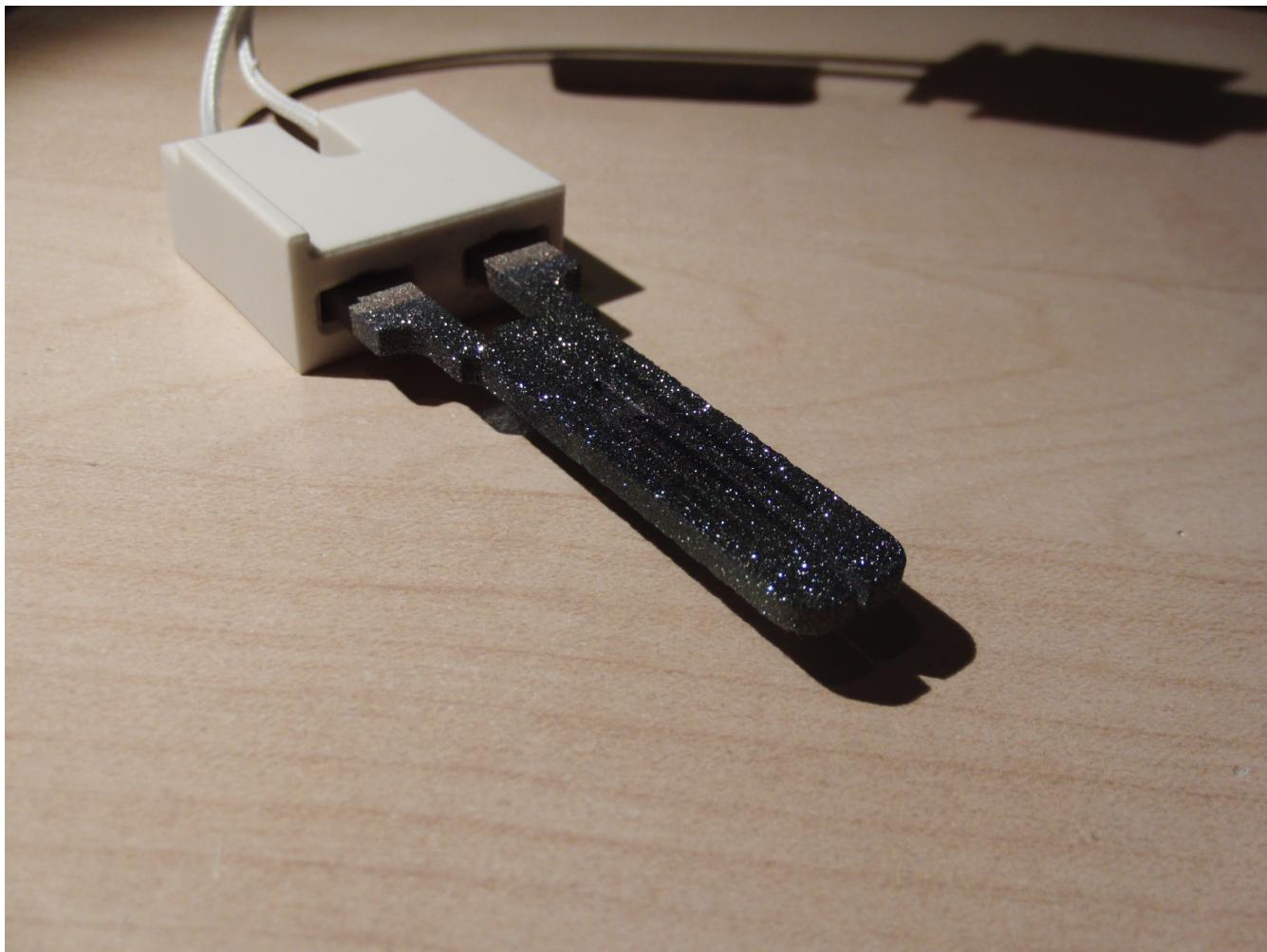


(a)

There are some surplus SiC elements on ebay, but in general they require fancy termination

[1] by Daniel Correia 

[2] I would be delighted to hear any criticisms anyone may have, both on substance and comprehensibility; preferably leave them on the GitHub issues page, or @0xDBFB7 on Twitter!



This is a hot surface igniter. They're used to ignite gas furnaces for central heating - apparently spark discharges don't have sufficient energy to reliably ignite gas over decades. As of a few years ago (pre-pandemic), they sold for about \$30 on Amazon.

These are an excellent commodity source of SiC elements for ultra-high-temp furnaces. Both SiC and SiNi HSIs are available; SiC greatly preferred due to higher temperature resistance. SiNi HSIs also often specify an 80v DC supply for reasons unknown.

It should be possible to use something like HOOMD-Blue to determine the crystal structure after