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To obtain atomic resolution, the STM tip needs to be atomically sharp so that most of the tunneling current flows through only one atom. I've just been cutting my tips from a 30 AWG tungsten wire with wire cutters. The technique is to pull the wire with a pair of pliers while cutting at an angle with the wire cutters. Since tungsten is a harder material than the wire cutters, the result isn't pretty, but does seem to work fine most of the time for atomic resolution on HOPG, probably because the HOPG is locally atomically flat. This technique gives mixed results though for larger scans, and apparently works much better with platinum iridium wire since it's a softer material that's also more resistant to oxidation than tungsten. You can also electrochemically etch tungsten tips with potassium hydroxide which results in much better quality tips, but the tips end up being covered by a thin oxide layer which is difficult to remove.

I etched the tip in the photo in 4M KOH with 4V applied using the "lamella" technique, in which the tungsten wire is etched in a thin lamella of KOH formed by dipping a loop of steel wire in the KOH. The KOH lamella etches the wire radially, and the piece of wire below the lamella drops off when the etching is complete.