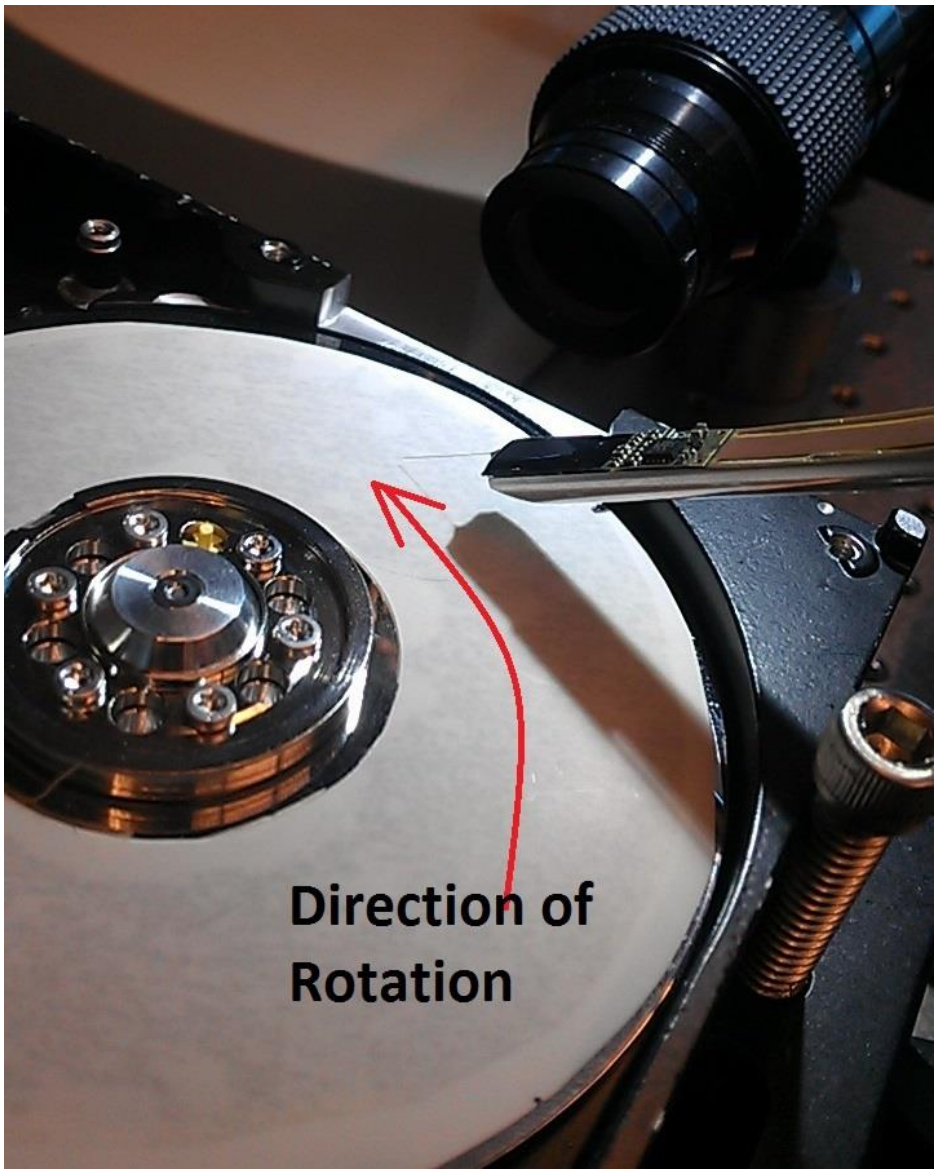
Electrode sharpening

W.Sun 1/28/2019

Using an opened HDD Hard Drive, a 0.3um aluminum oxide polishing pad (PF00.3A-P-4) is adhered to the top surface of the HDD platter. Due to the nature of this procedure, protective eyewear is recommended.



Our setup utilizes a dovetail probe holder, which can be lowered and tilted. Orient the probe with the sites facing up, and the bottom surface to be chiseled by the rotating polisher. The sharpening angle used is approximately 38 degrees. As seen in the picture above, from top (overhead) view, position the shank along a

tangent of the spinning platter, with the tip pointing in the direction of rotation (in our case, the HDD spins CCW).

Upon the point of contacting the tip to the polisher, the probe should not be lowered further. Polishing time varies with RPMs, polishing location on the spinning HDD (OD is faster than ID), polishing pad grit, and other factors. It is best to polish conservatively and re-examine the tip as you proceed to gain some insight about the polishing time for your particular setup. In our case, it takes around 25 seconds.