

JEOL1400 – adjusting the BIAS

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What is the BIAS and why should I adjust it?

The BIAS is a parameter you can adjust to change the beam current. Ideally, the beam current should be stable and consistent between sessions, but lately it is not.

- If the beam current is too low (<65 uA), you get a very weak beam, or no beam at all. The error “beam might not be emitted” is sometimes displayed on the screen.
- If the beam current is too high (>70 uA), the filament will age much faster. Also, it might be linked with the filament and/or HT suddenly crashing mid-imaging.
- The dark current (beam current when the filament is off) should be ~61.2 uA.

How to adjust the BIAS:

- Check the beam current in the ‘Beam controller’ window (every 10 min). It should be between 65-70 uA.
- If not, adjust with the Bias coarse/fine arrows.
 - Please note that these buttons do not respond linearly – check the beam current after each click.

