Evaporation/Sputtering

Sputtering process library on the CNF website

> ***Odd-hour thermal evaporation of aluminum on fused silica***
> ***TOOL: E-Beam Evaporator***
> ***SOURCE: Aaron Windsor***
> ***ADDED: 12/6/13***
>
> *A higher deposition rate was used for better adhesion.*
>
> *• Use a tungsten flat boat with one ¼" x ¼" aluminum pellet. This will provide a maximum of 250 nanometers of deposition (be aware that the aluminum may wet and collect on the underside of the boat which will lower the total deposition).*
> *• Pump down to at least 2.0 x 10-6*
> *• Set the Voltage to five Volts.*
> *• Increase the power to the thermal hearth 15% a minute until you get to 60%. The pellet should start to melt at 58-65% power.*
> *• Once the pellet melts, let the aluminum migrate across at least 2/3 of the boat. You may need to slowly increase the power.*
> *• Increase the rate quickly to 74.0% for a rate between 10-30 Å/sec and quickly open the shutter.*
> *• Do not let the power go above 80%.*
> *• Do not let the current go above 13 Amps.*
> *• Wait fifteen minutes after your deposition before venting the bell jar.*
> *• Do not reuse the aluminum boats.*

User Recipes

> ***Fe catalyst for nanotube growth***
> ***TOOL: E-Beam Evaporator***
> ***SOURCE: McEuen Group***
> ***ADDED: 2/17/13***
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> *For aligned arrays we've been using Fe layers of 1-3 angstroms.*