

Re: SEM of magnetic materials

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From: Gary G (*see.signature_at_bottom*)

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On 11 Mar 2005 02:57:15 -0800, "vsoares@inesc-mn.pt"
<vsoares@inesc-mn.pt> wrote:

>Hi all,

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>I'm not a SEM specialist but have often to use the SEM at work. We have
>a S2500 Hitachi tungsten filament scope and we have sometimes to look
>at magnetic sensors. One of the problems is that the sensor is on top of
>SiO₂ so I cannot get enough contrast.

>Is there some etchant I could use to increase the contrast? What worries
>me is that the sensor is only circa 200 Å high and that any etch will
>destroy it.

>

>Thank you in advance

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>

>Virginia Soares

If the sensor is on top of SiO₂, then more than likely, the whole specimen will charge. When this happens, you will definitely lose contrast. To avoid charging, coat the specimen with Au/Pd or Pt. However, doing so will render the specimen non-functional since it makes the specimen conductive. The coated specimen should be on a pin stub or other type of mount so that it is connected to ground.

A feature size of 200 Å high is a small dimension. What is the x & y size of the sensor and what is its composition? If it is metal, then backscatter will produce lots of contrast and also eliminate the need for coating.

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