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Subject: Corrections to paper titled: “Magnetic properties of epitaxial Cr/Cr_{99.65}Ru_{0.35} heterostructure.”

Dear Editor

Thank you very much for the reviewer reports.

Two reviewers had comments. The first reviewer suggested only minor corrections. These were all included in the edited article. The second reviewer had more technical comments. These were handled in the following manner:

Comment 1, Reviewer 2: Regarding the thickness of heterostructure and samples used in RBS measurements: We agree with the reviewer, however, the sample used for the RBS was only a **typical** [Cr / CrRu]_n heterostructure with $n = 8$ of the samples used in this study. We also changed the text in Results section, paragraph 1 to indicate such.

Comment 2, Reviewer 2: Regarding the only slight difference in Z of Cr and Ru. In this particular case the experiment was performed on a typical stack with $n = 8$, where n refers to Cr/CrRu repeats, to see if it is possible to observe the different Cr and CrRu layers and to test to first approximation the inter-diffusion between layers. As can be seen from Figure 1 this is possible. An oscillatory behavior is observed thus indicating it is, within limits, possible to distinguish the different layers with slight Z difference.

Comment 3, Reviewer 2: Regarding coherence length and the periodicity of 10 and 50 nm of the Cr and Cr-Ru layers: One must take cognizance of the fact that both the 10 nm Cr and 50 nm Cr-Ru layers have a body centered cubic (BCC) crystal structure and in this particular case growth is epitaxial. For this particular case the total sample thicknesses are in the order of 700 nm, thus coherence length here refers to how well particular “grains” will grow from the substrate through the depth of the layer. By using a coherence length of 255 nm, we indicate that on average a “grain” will have an average columnar grain growth length of 255 nm.

Hope that this will answer some of the reviewer comments.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'CJ Sheppard', written over a horizontal line.

CJ Sheppard

Dr Charles J Sheppard