



Editorial: the May 2024 cover paper

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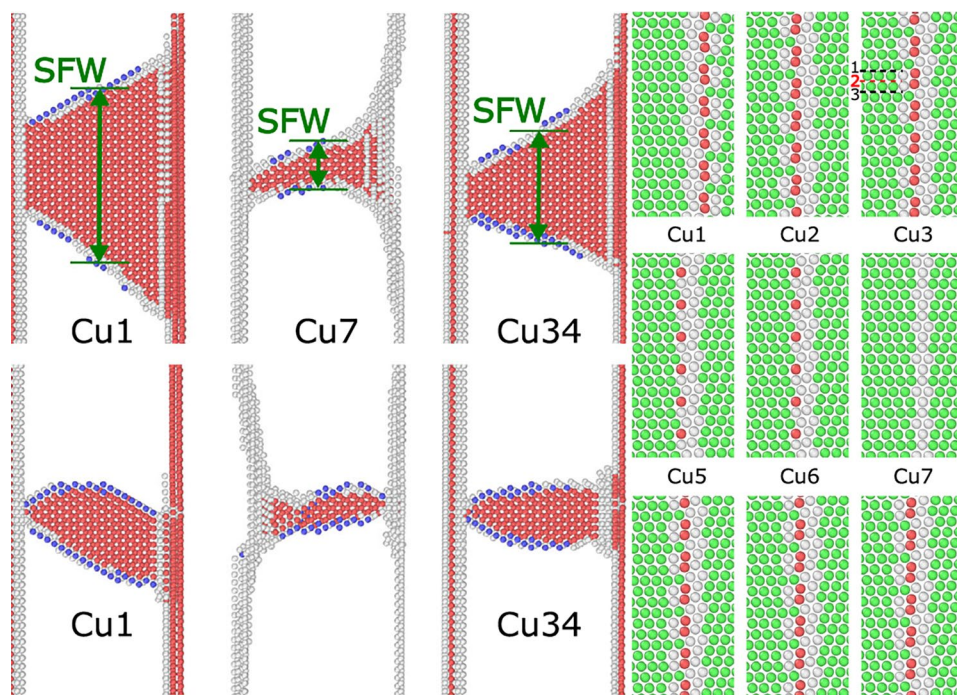
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GRAPHICAL ABSTRACT



The cover image for the May 2024 issues of the Journal of Materials Science comes from the paper by Ji et al. which appeared in issue #12 from March 2024 [1]. The paper was handled by our Special Issues Coordinating Editor Grant Norton [2] and is entitled “Role of stacking fault energy in confined layer slip in nanolaminated Cu.” The Special Issue was conceived by the Guest Editors Tariq Khraishi, Georges Ayoub,

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Sinisa Mesarovic, and Mutasem Shehadeh to honor the memory of their late colleague Professor Hussein Zbib; the issue is entitled “The Physics of Metal Plasticity: in honor of Professor Hussein Zbib” [3]. Coincidentally Hussein was also a colleague of our Deputy Editor-in-Chief, Grant Norton, making the issue doubly special.

The paper concerns the deformation of metallic nanolaminates (MNs). The introduction gives a

concise description of why MNs are so interesting and explicitly acknowledges the contribution of Hussein Zbib. There is a reference (#27) to the 1962 work by Thornton, Mitchell and Hirsch [4] but no references to any measurements of the intrinsic SFE [5]! Incidentally, Professor Hirsch will turn 100 in January 2025 and the Microscopy Society of America will feature a Symposium at M&M 2024 celebrating the career of Terry Mitchell. Terry was, of course, also a co-author with I.J. Beyerlein.

The cover figure combines “Stable interface structures in Cu using the eleven EAM potentials” (from Fig. 3) with “Stable, zero-stress stacking fault structures on different slip planes predicted by the eleven different EAM potentials” (from Fig. 4). We read phrases like “occurring for few nm < h < tens of nm” so this paper makes you think, and then delve into the history.

The paper does have a SharedIt link like all articles in JMS (<https://rdcu.be/dD8bj>) so it can be widely and immediately shared with readers; all papers published in JMS are free-to-read in their published form using the SharedIt link from the moment they appear online with their permanent DOI. The corresponding author is Professor Shuozhi Xu, an Assistant Professor with an h index of 31 at the University of Oklahoma (shuozhixu@ou.edu). The last author on the paper is Professor I.J. Beyerlein who not only was a very active researcher at LANL before moving to UCSB but (according to Wikipedia) was actually born in Los Alamos. Her Ph.D. is from T&AM at Cornell and her BS from Clemson.

The paper contains 63 references and it is nice to see such a detailed summary of the contributions of the different authors.

References

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- [3] Khraishi T, Ayoub G, Mesarovic S, Shehadeh M (2024) The physics of metal plasticity: in honor of Professor Hussein Zbib. *J Mater Sci* 59:4723–4727. <https://doi.org/10.1007/s10853-024-09584-7>
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