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Dear Editor of Journal of Visualized Experiments:

We herewith would like to submit our manuscript entitled “Quantification of Hydrogen Concentrations in Surface and Interface Layers and Bulk Materials through Depth Profiling with Nuclear Reaction Analysis” for publication in the Journal of Visualized Experiments.

In this article, we illustrate the application of 1H(15N,αγ)12C resonant nuclear reaction analysis (NRA) in quantitative measurements of hydrogen densities on surfaces, in the volume, and at interfacial layers of solid materials. The 15N NRA technique has many potential applications but there are only a few accelerator facilities worldwide where this method can be performed. Especially the combination with surface-analytical UHV instrumentation for the *in-situ* preparation of atomically controlled single crystal targets for hydrogen analysis at the MALT tandem accelerator facility of the University of Tokyo described herein is unique to our best knowledge. We believe that this highly versatile experiment deserves recognition by a wider audience and therefore chose to publish this work in JoVE. We were invited to submit our manuscript by Associate Editor Mathew Solomon.

As for the author contributions, M.W., S.O., and K.F. have been working together for more 15 years on the development of the 15N NRA systems at MALT and performed over 110 machine times for NRA measurements at the facility in a large number of projects. This manuscript reflects much of the common experience in our team. M.W. acquired all NRA data and wrote the paper. H.M. is the head of the MALT facility and has provided generous support and assistance in the operation of the tandem accelerator.

We would like to suggest the following potential scientific reviewers for our manuscript:

Prof. William A. Lanford, SUNY at Albany   
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We hope that you will consider our manuscript suitable for publication in JoVE.

Sincerely Yours,

Markus Wilde

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