



July 12, 2016

Catherine S. Fletcher
Freedom of Information Act Officer
National Institute of Standards and Technology
100 Bureau Drive - Stop 1710
Gaithersburg, MD 20899-1710

Re: Freedom of Information Act Request

Dear Ms. Fletcher:

This is a request under the Freedom of Information Act, 5 U.S.C. Sec. 552.

This request pertains to supporting information for a paper published by NIST:
[1] Jefferts et al., 8th FSM, J. Phys. Conf. Series **723**, 012005 (2016). This is a follow-up to a so far unanswered email request to Dr. Steven Jefferts on July 5, 2016.

Please provide the numerical values of the frequency shifts and their uncertainties versus n ($\pi/2$ pulses) for NIST-F1 and NIST-F2 that were used for the results in Fig. 1 of [1].

To help to determine my status to assess fees, you may consider that I am affiliated with an educational institution, and this request is made for scholarly and scientific purposes and not for a commercial use. I request a waiver of all fees for this request. Disclosure of the requested information to me is in the public interest because it is likely to contribute significantly to public understanding of the operations or activities of the government and is not primarily in my commercial interest. My request specifically deals with the evaluation of a systematic error, the microwave lensing frequency shift, of the NIST-F1 and NIST-F2 atomic clocks. My previous published analysis using estimated values indicates that there is a significant correction to the frequency bias of NIST-F2, and a similar bias is expected for NIST-F1. Because [1] reports a measurement of this bias for the primary frequency standards of the United States of America, it is in the public and the government interest that the analysis of the measurements be correct. Previous results of my re-analyses of NIST data have been published in peer-reviewed journals and also are publicly available on my web site. Significant findings from the examination of the requested data will similarly be published and/or publicly available. Further with respect to fees, I note that publishing [1] in an IOP journal includes a responsibility of the authors to make requested information and data available to researchers for scientific scrutiny and verification of published results.

Thank you for your consideration of this request.

Sincerely,

A handwritten signature consisting of several overlapping, slanted, dark lines, likely representing the name Kurt Gibble.

Kurt Gibble, Professor of Physics
104 Davey Laboratory 232
Department of Physics
Penn State
University Park, PA 16802
kgibble@psu.edu