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ACCEPTED MANUSCRIPT

Dear Reviewer,

please excuse the size of the figures in the compiled text. All figures are also attached as pdf and you may refer to the figures at the end of the submission file.

Our highlights:

It is well known that the electron phonon coupling plays a fundamental role in ultrafast laser-matter processing. A few years ago, this parameter has been calculated for several materials in a large range of temperatures. Here we show for the example of gold that the electronic temperature is not a proper variable, but rather the complete distribution of free electrons influences the coupling strongly.

Thank you for consideration, sincerely yours, Baerbel Rethfeld

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