Dr. Congcong Huang
Associate Editor
Nature Communications
Unit 10-11, 42F, The Center
989 Changle Road, Xuhui District
Shanghai, China, 200031

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Dear Dr. Huang,

We have recently received a negative decision on our manuscript NCOMMS-13-09247-T. We would like to formally appeal this decision and ask for the permission to submit a revised version of our manuscript addressing the concerns of the reviewers. The reason for our appeal is mainly driven by the motivations raised by the reviewers against our work which we found not fully correct and, in some cases, even too simplistic. For your convenience, we will briefly summarize our arguments in the following lines.

Referee one actually would welcome a revised manuscript, addressing his/her comments and is not advising a rejection a priori. The mentioned work of Stutman et al has an intrinsic limitation (the tilt angle) which our approach does not have. Exactly this issue prevents the method of Stutman to achieve sufficiently high-aspect ratio *and* curved profiles at the same time, something that our method easily can. The problem mentioned on the contrast below the soldering points can be explained by beam-hardening in the absorption image. We would amend the manuscript accordingly, providing more information as requested.

Referee two is skeptical about the visibility achieved in our experiment compared with the work from Pfeiffer's group. He/she might not have noticed that our data have been obtained on a commercially available X-ray tube, while the cited experiment of Pfeiffer's et al. has been carried out at a third generation synchrotron source, where notably unsurpassed beam conditions can be created which are far from what one can expect in real life (i.e. with conventional X-ray tubes). And, even if one would like to still carry out this (unfair) comparison, we should mention that our experiment is the *first* measurement of its kind with the first generation of gratings made according to our innovative design. Pfeiffer's team uses gratings obtained after almost a decade of development and, despite this and the use of a synchrotron, they are not much further than us and still carry the intrinsic limitation of a limited grating height. We are perfectly

aware that the quality of our images has still to be improved, but here we are presenting the first experiments with edge-on grating illumination: we describe its great potential but also mention its (temporary) limitations. The same reviewer also complains about the limited field-of-view our method is supposed to have. This is actually wrong, since the horizontal field-of-view is just limited by the size of the wafer (as for other methods) while the vertical field-of-view is covered by a vertical scan of the sample, i.e. not limited at all, and, even more important, it becomes very interesting when CT applications are considered (all modern CT systems combine a line (or few lines) detector with a patient translation). Reviewer 2 finally admits that in comparison with a coded-aperture based experiment at 100 kVp our images (taken at 160 kVp) are better, which we of course appreciate. We believe that novelty in the approach must be the driving factor in judging the suitability of our work for this journal and not the present limitations of the technology (which can be solved!), as reviewer 2 seems to conclude.

In our opinion, referee three weighed the technicalities and related limitations of our experiment too much, without considering the innovative solution that we are introducing. As mentioned above, we are perfectly aware of the constraints of the present system but here we are showing the feasibility of a novel approach, which of course needs to be optimized to reach a broader usage. He/she mentions, as comparison, an ABI experiment performed at the tungsten 60 keV K_α line. We appreciate this hint and will be happy to integrate it in our revised discussion but we would like to already point our that our experiment was carried out at 160 kVp, with a nominal energy around 100 keV. This is significantly higher than 60 keV. We are not aware of any ABI setup operated at 100 keV on a conventional X-ray source, so the comparison does not sounds very fair either.

For the above mentioned reasons, we are gently asking you to reconsider our manuscript and to give us a chance to resubmit a revised version.

On behalf of the authors,

M. Stampanoni