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Dear Editor,

please find enclosed a manuscript on "Near-lossless method for generating thermal photon-bunched light".

This work presents an experimental demonstration of a relatively simple method to prepare photon-bunched (thermal) light both with a high brightness and a relatively narrow optical bandwidth, based on efficient conversion of laser light with a chain of asymmetric Mach-Zehnder interferometers. Sources of thermal light might be useful for LIDAR systems and other applications that rely on the temporal correlation in thermal light.

The presented work avoids the huge loss penalty associated with conventional sources of thermal light, like scattering of laser light from moving ground glass plates or a dispersion of beads in a liquid, or filtering blackbody radiation to a narrow enough bandwidth to observe photon bunching in thermal or pseudo-thermal light with practical photodetectors.

As such, exploitation of the temporal correlations in thermal light while retaining its genuine randomness might open practical applications of thermal light that were impossible with previous sources of thermal light.

We feel that APL Photonics would be a great platform for this method as a modern application of photonic technologies that may compete or exceed what quantum light sources could offer.

Looking forward for your reply and possible consideration.

With Best Regards,

Christian Kurtsiefer