Abstract Submitted
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Integrated Diffractive Optics for Surface Ion Traps[1] ERIK STREED[2], Griffith Univ, MOJI GHADIMI, VALDIS BLUMS, BENJAMIN NORTON, PAUL CONNOR, Griffith University, JASON AMINI, CURTIS VOLIN, Georgia Tech Research Institute, MIRKO LOBINO, DAVID KIELPINSKI, Griffith University — Photonic interconnects are a bottleneck to achieving large-scale trapped ion quantum computing. We have modified a Georgia Tech Research Institute microwave chip trap by using e-beam lithography to write reflective diffractive collimating optics (80 μm x 127 μm, f=58.6 μm, λ=369.5nm) on the center electrode. The optics have an NA of 0.55 x 0.73, capturing 13.2

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