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Heralding Entanglement Between Imperfect Qubits[1] HYEONGRAK CHOI, DIRK ENGLUND, Massachusetts Institute of Technology MIT — Color centers in diamond have emerged as excellent candidates for quantum networks. However, despite their stable optical properties, residual imperfections in optical properties still limit the achievable fidelity of heralded entanglement. Here, we address this problem through a new single-photon entanglement protocol. Our calculations include entanglement distillation. Estimates based on present-day technology indicate that this protocol enables entanglement fidelity in excess of 99% for leading diamond color centers.

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