## **Description of Additional Supplementary Files**

File name: Supplementary Movie 1 Description: 3D imaging of a picosecond laser pulse propagation inside a fiber.

File name: Supplementary Movie 2 Description: Deep adjoint neural network for mitigating the limited view problem.

File name: Supplementary Movie 3 Description: Animated 3D visualization of Letters V and I.

File name: Supplementary Movie 4 Description: Video rate NLOS imaging at 30 Hz.