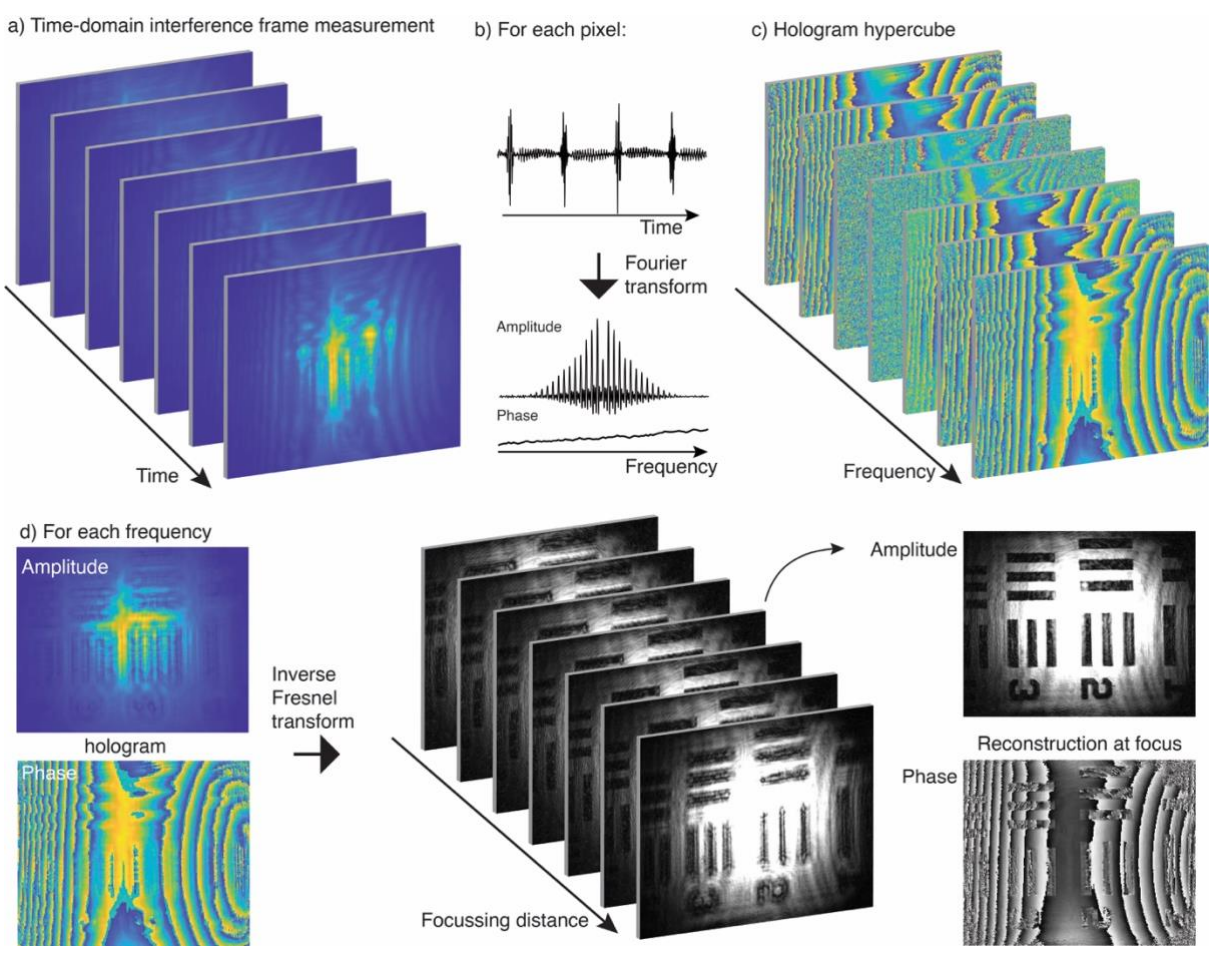

Fig. 2. Reconstruction of dual-comb holographic amplitude and phase maps: a pictorial report using experimental data. (a) The frames of the interference between the object and reference waves are sampled as a function of time on a detector matrix. The object is a resolution test target observed in transmission. **(b)** As many time-domain interferograms as there are pixels are measured. Each is Fourier transform to reveal frequency-domain amplitude and phase spectra with resolved comb lines. **(c)** The hologram hypercube includes as many complex holograms as there are comb lines: at a given frequency, the hologram includes the amplitude and phase of the spectrum across all detector pixels. **(d)** At a given frequency, an inverse Fresnel transform of the holograms generates amplitude and phase images over the entire range of focal distances and selected focused images are shown in the paper. The multiple phase maps will enable to unwrap the phase and to render the three-dimensional structure of the object (Fig.5).