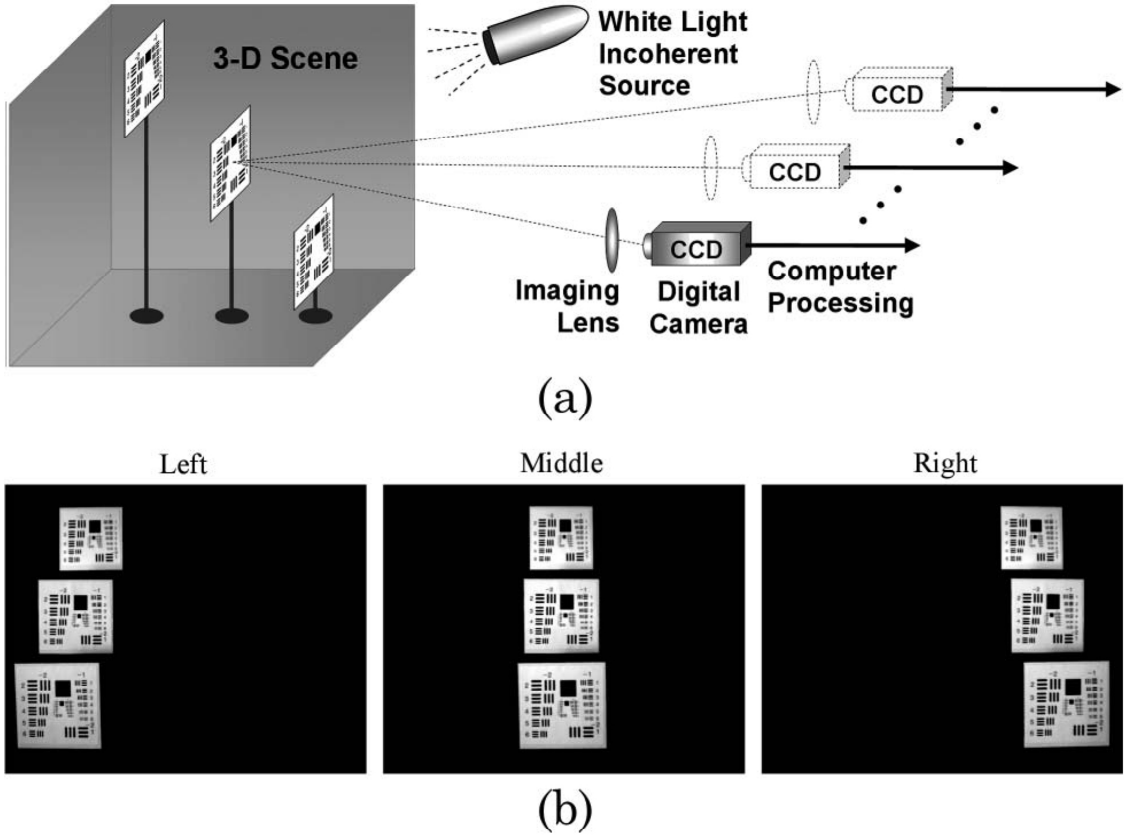

Fig. 4. 1-D MVP holography [38]: (a) Optical system for acquiring MVPs of a 3-D scene along the horizontal axis. (b) Several projections taken from the entire set of 1200 projections, which are shown in View 5 and Media 7.

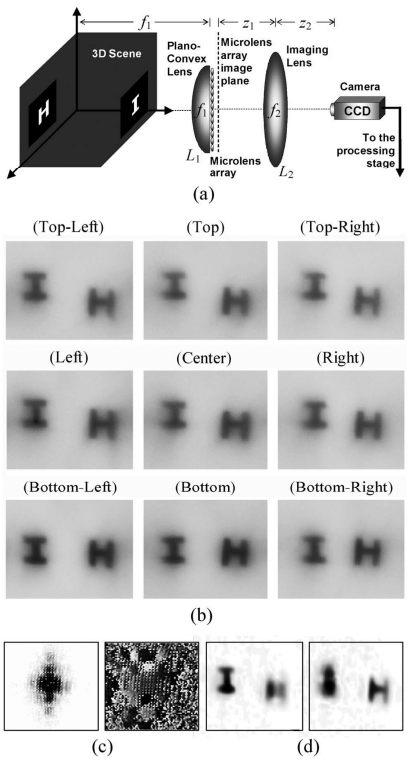

Fig. 1. Integral holography—MVP holography using a microlens array [29]. (a) Optical system for capturing the MVPs. (b) Several projections taken from different parts of the microlens array image plane captured by the camera. Larger part of this image plane is shown in View 1 and Media 1. (c) Magnitude (left) and phase (right) of the 2-D Fourier hologram obtained after performing the processing stage on the captured projections; (d) Best-in-focus reconstructed planes obtained by digital Fresnel propagation. Note that (b)–(d) are contrast-inverted. The continuous Fresnel propagation as 2-D slices and the entire reconstructed volume are shown in View 2, as well as in Media 2 and Media 3 (best-

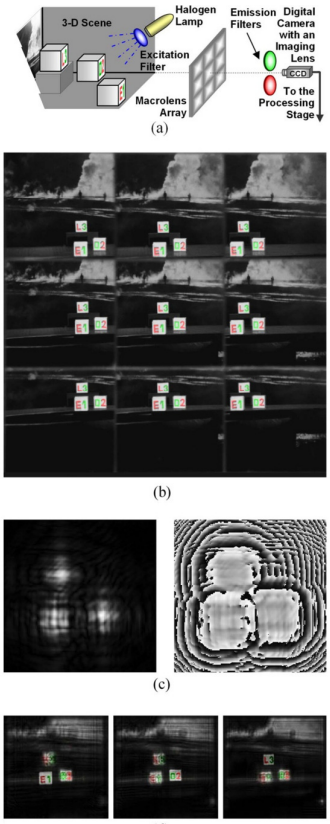

Fig. 8. (Color online) Fluorescence 3-D imaging by MVP holography [36]: (a) Optical system for acquiring 3 × 3 perspective projections simultaneously using the macrolens array shown in Fig. 3. Part of the objects in the scene are fluorescently labeled. (b) Composite image plane of the macrolens array acquired by the camera. (c) Magnitude (left) and phase (right) of the nonfluorescence 2-D DIMFH. Two additional fluorescence 2-D DIMFHs are generated as well. (d) Three best in-focus multicolor reconstructed planes

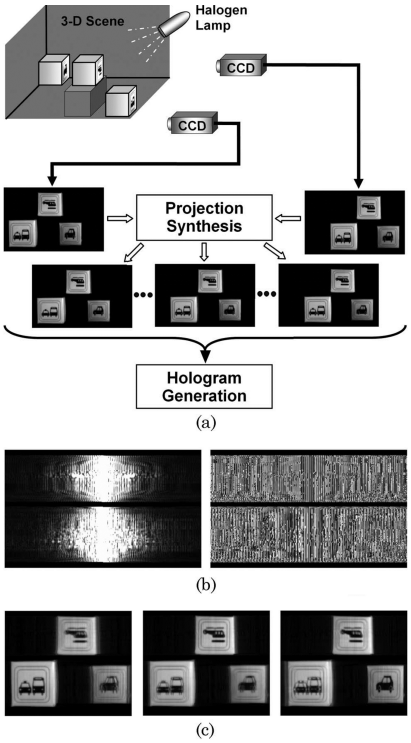

Fig. 2. Synthetic projection holography (SPH)—optically acquiring only a small number of projections and synthesizing the middle MVPs by the view synthesis algorithm [33]: (a) Schematics of the experimental setup. Only two projections are optically acquired. The entire MVP set (including the synthesized projections) is shown in View 3 and Media 4. (b) Magnitude (left) and phase (right) of the 1-D Fourier hologram obtained from the final set of MVPs. (c) Best-in-focus reconstructed planes. The continuous Fresnel propagation as 2-D slices and the entire reconstructed volume are shown in View 4, as well as in Media 5 and Media 6 (best-in-focus axial points are amplified).