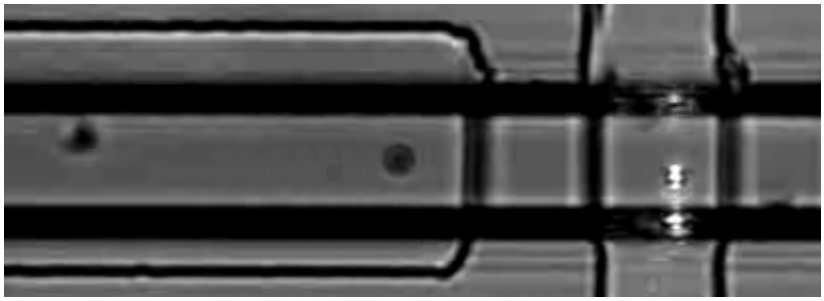
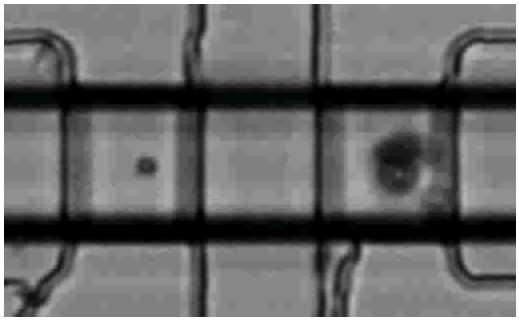
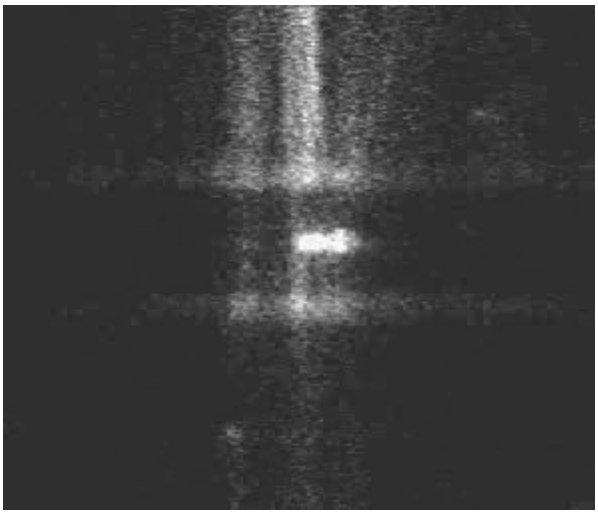


Movie S1: Operation of a dual trap. This movie shows two microparticles in a dual trap arrangement. The right particle is seen as a bright scattering spot inside the liquid core waveguide due to incomplete suppression of the trapping light at 532 nm. It is trapped in a transverse DB-trap. The left particle is held in a longitudinal LB-trap and is seen as a dark spot. In the course of the movie, the power ratio of the LB trapping beams is adjusted to approach and remove the left particle from the right particle. (416 kByte, avi-file)



Movie S2: Fluorescence excitation of a trapped microbead. This movie shows the fluorescence emission of a fluorescent microparticle held in a LB-trap. First, the bright-field image is taken to show the particle and the outline of the waveguide structures. Then, the illumination is switched off (there is a period of darkness) and the particle is moved into the excitation region of a perpendicular pump-beam (633 nm) by the

adjustment of the trapping beam power ratio. Bright fluorescence from the trapped particle can now be observed. (453 kByte, avi-file)



Movie S3: Fluorescence excitation of a trapped E. coli. A pair, composed of an E. coli bacterium attached to a microparticle, is trapped in an LB trap and brought into the excitation region. Once the stained bacterium is exposed to the excitation beam, fluorescence can be observed. Residual luminescence of the pump beam (488 nm) leads to background scattering streaks and some scattered luminescence from the microparticle. (371 kByte, avi-file)