

APPARATUS AND METHOD FOR THE MANIPULATION, PROCESSING  
AND OBSERVATION OF SMALL PARTICLES, IN  
PARTICULAR BIOLOGICAL PARTICLES

5     Abstract

10     An apparatus for the manipulation, processing and observation  
of small particles, in particular biological particles, is  
disclosed. A first laser (4) generates light beams in a first  
wavelength range, which are focused with a first optical de-  
vice (12, 13; 14, 15) and form an optical trap. An object hol-  
der (22) serves to contain the relevant particles. In addition  
a light source (17) for observation light is provided, whereas  
observation and recording devices serve to observe particles  
15     and record their behavior. A second laser (3) generates light  
beams in a second wavelength range, which are focused in order  
to manipulate particles in the object holder. The optical de-  
vices for the individual light beams can be positioned and fo-  
cused independently of one another, and at the beginning of  
20     manipulation and observation the beams are focused in the same  
object plane of the object holder independently of their wave-  
lengths.

[Figure 1 is suggested for publication]