

## Optical manipulation of colloids and defect structures in anisotropic liquid crystal fluids

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## REVIEW ARTICLE

# Optical manipulation of colloids and defect structures in anisotropic liquid crystal fluids

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**1. Introduction**

Colloids are particles of various sizes and shapes suspended in a fluid. They are found in nature and in many industrial and biological systems. The study of colloids is a rich and diverse field, with applications ranging from materials science to medicine. In this review, we focus on the optical manipulation of colloids and defect structures in anisotropic liquid crystal fluids.

The optical manipulation of colloids is a well-established technique, with applications in many areas of science and technology. In anisotropic liquid crystal fluids, the optical manipulation of colloids is particularly interesting because of the unique properties of these fluids.

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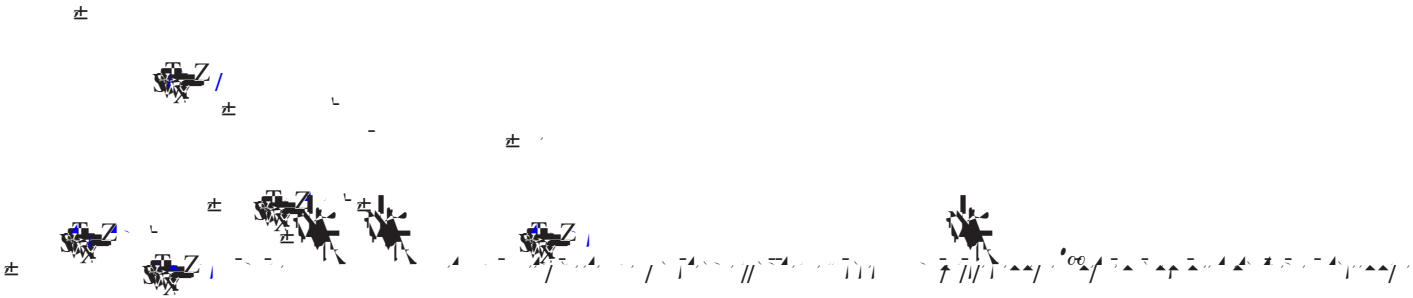




Table 1.

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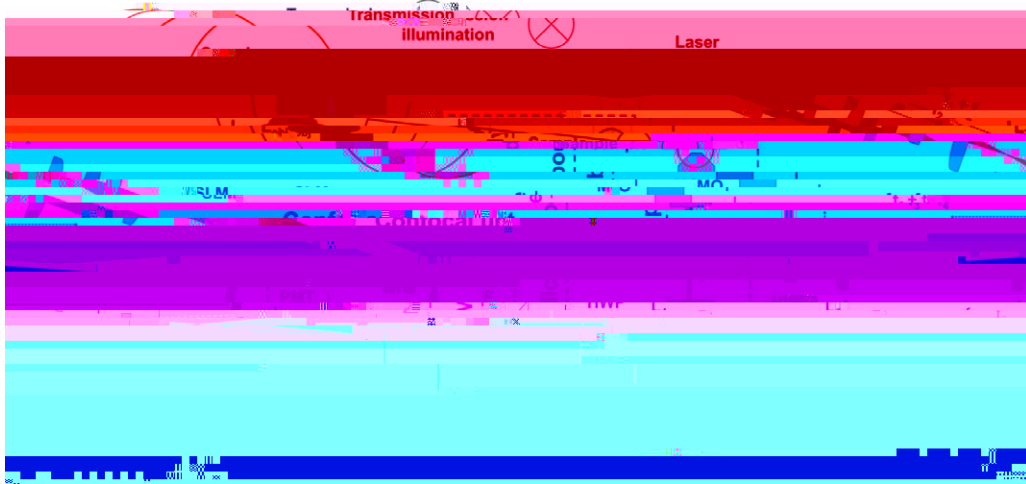


Figure 1

Figure 1 shows a false-color satellite image of a city, likely an airport or industrial area. The image is overlaid with a red color map. Labels include 'Transmission illumination' at the top center, 'Laser' at the top right, and 'Control Unit' in the middle. The image shows various structures, roads, and green spaces. There are also some small icons and symbols scattered across the image.



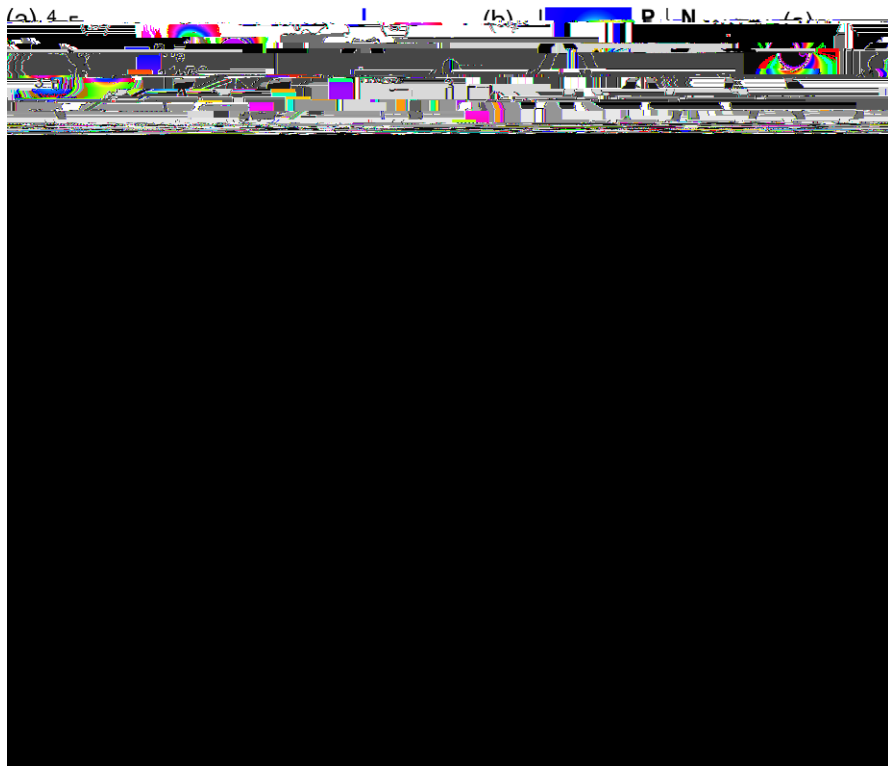


Figure 3.  $\Delta \rho_{\text{eff}} / \rho_{\text{eff}}$  vs  $\Delta \rho_{\text{eff}} / \rho_{\text{eff}}$  vs  $\Delta \rho_{\text{eff}} / \rho_{\text{eff}}$

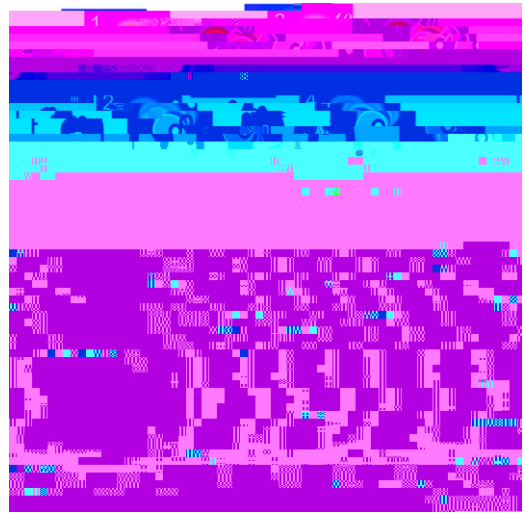
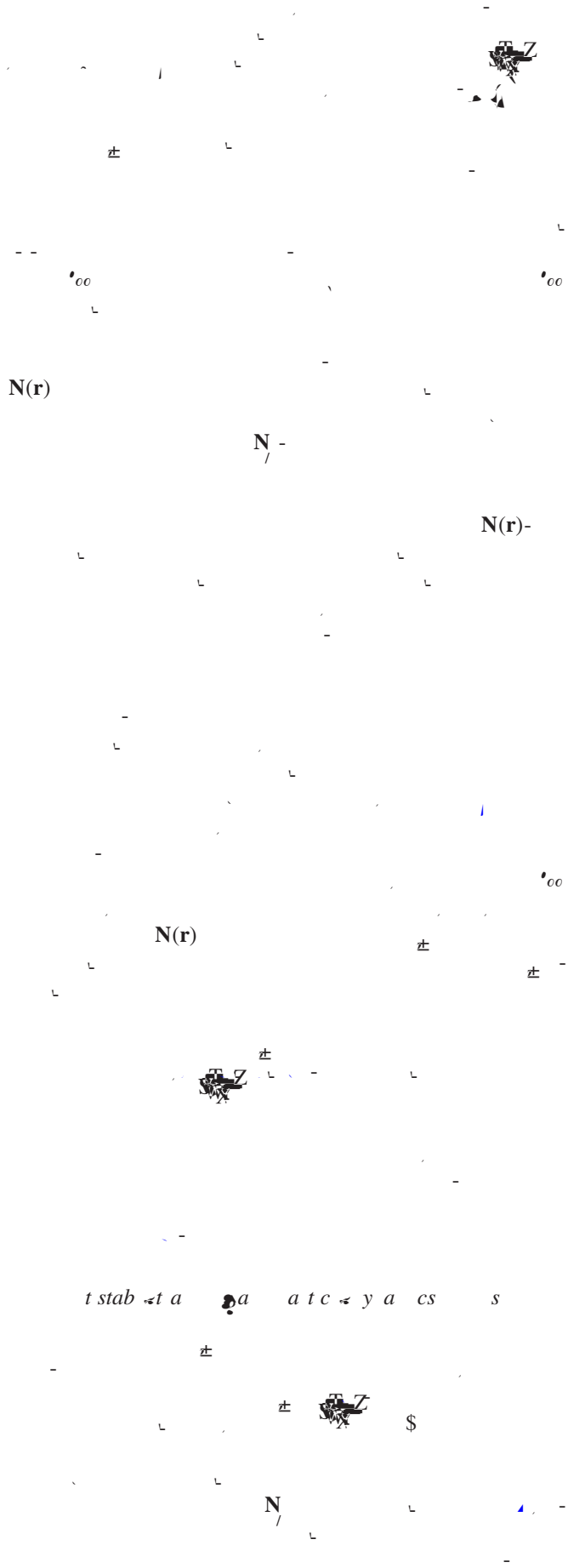


Figure 4.

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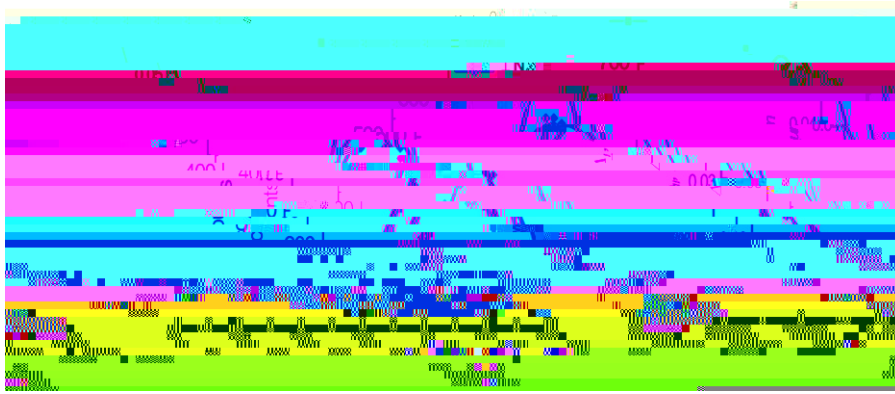


Figure 5.

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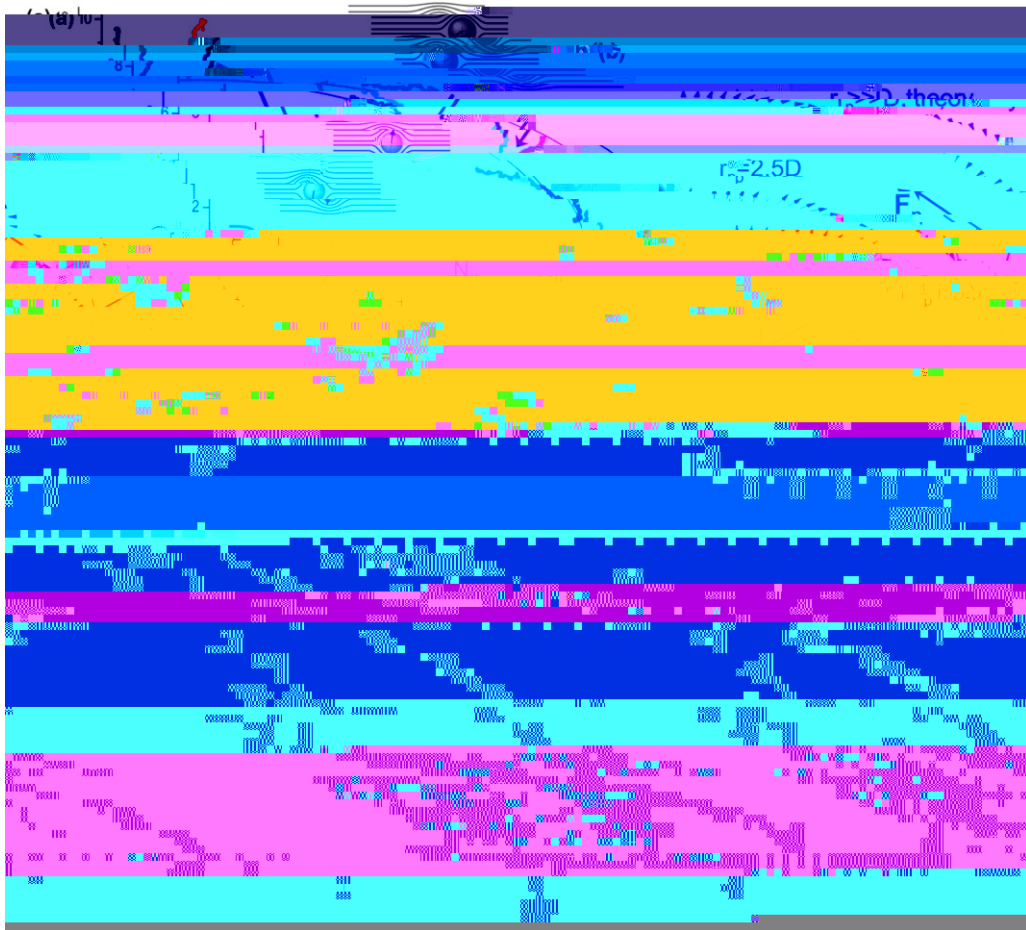
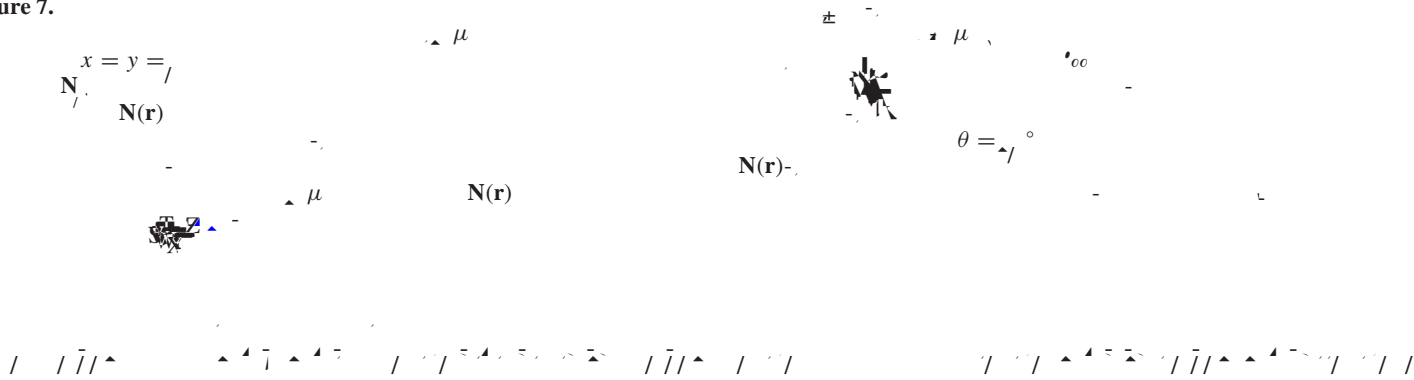


Figure 7.



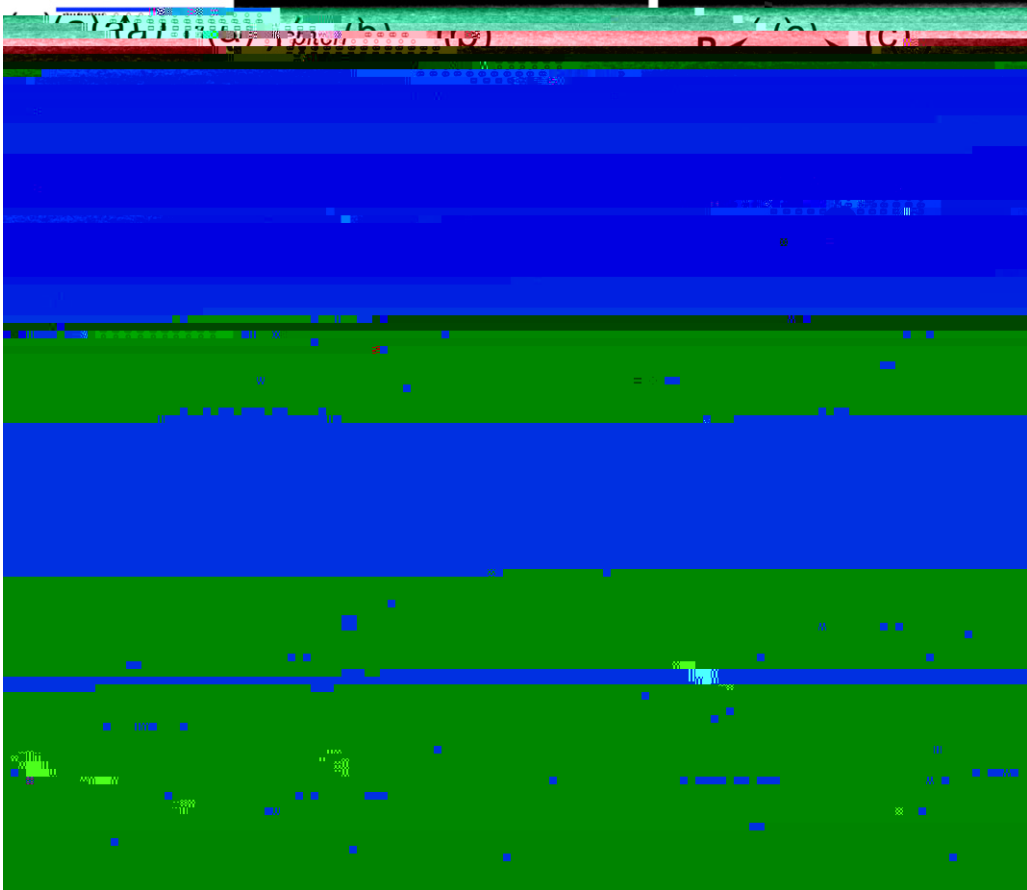


Figure 8.

Figure 9.





Figure 10.  
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Figure 12



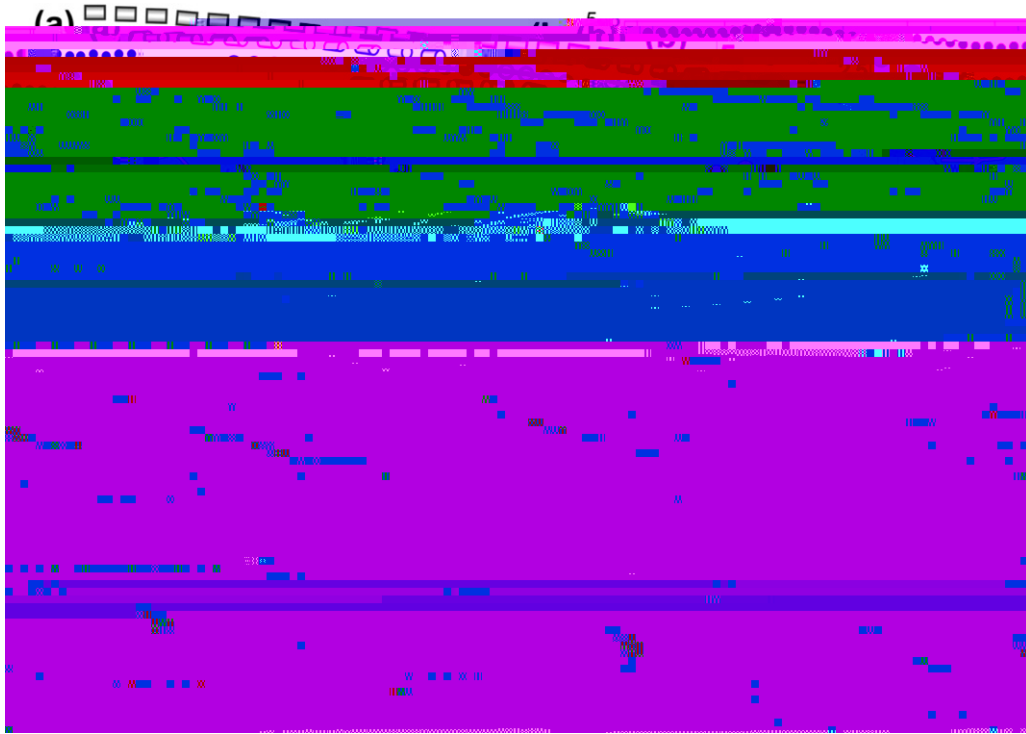


Figure 13.



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