

## An Overview of Liquid Crystal Techniques and Technology with Applications to Different Research Fields

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### **Abstract**

In this paper, the latest techniques and technologies of liquid crystal devices have been reviewed with essential conclusions made based on their applications. This work combines Liquid Crystal research from different field. Here I give an overview of Liquid Crystal instrumentation in the optical systems, focusing on a large domain of applications: photonic devices, biomedical applications, etc. I characterize common approaches and challenges. In addition, novel technique of liquid crystal that permits a new solution has been presented. I conclude with advice regarding the Liquid Crystal group at large to make concerted efforts to exchange expertise.