conferenceseries.com

World Summit on ORGANIC AND INORGANIC CHEMISTRY

February 09, 2022 | Webinar

# Interference fringes in Columnar Liquid Crystal ($C_8$HET)

**Takali Dalel**
*Laboratory of Physics of Nanostructured Materials, Quantum and Nonlinear Optics, Tunisia*

We are interested by characteristic defects S1/2 in an optically anisotropic columnar liquid crystal (C8HET) where the growth of the columns develops cylinders or semi-spherical topology around a core of radius rc. We are study the growth of an S1/2 defect in a columnar liquid crystal (CLC), the conversation of several director columns n □ carried by the directions of the columns (div n □ = 0) gives structures in half-spheres. In the structure of the half-drop we compare the growth of the transverse radius Rt and the longitudinal radius Rl to discuss the topology of the structure. We show the existence of destructive fringes on the surface of the half-drop characterized by a black ring. Furthermore, we characterize the interference phenomena between the incident ray and the reflected one in tangential incidence on the surface of the half-drop by the localization of the interference field, the interfringe and the dispersion in polychromatic light.

## Biography

Takali Dalel working as faculty of physics laboratory of physics of nano structured materials, quantum and nonlinear optics, Tunisia