Tunable Coloration from Multi-Phase Droplets and Particles

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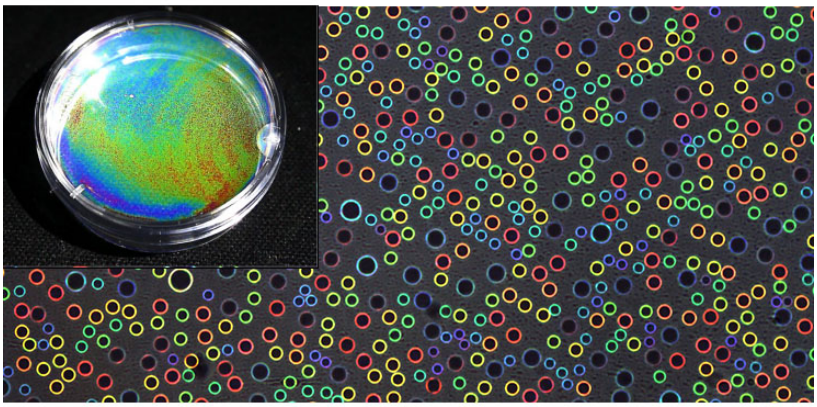

Color Arises from Individual Droplets

Technology Summary

This technology allows for generation of structural coloration resulting from entirely fluid droplets. The color arises without the need for dyes, and the color is iridescent; it changes as a function of light incidence and viewing angle. These structural colors can be generated in liquid drops, and the morphology of the droplets can be controlled dynamically which allows tenability of the perceived color throughout the visible spectrum and could also be used to control the droplet's infrared and UV signature. Through appropriately controlling the chemistry, the droplet morphology can be fixed leading to a permanent color signature.

Application & Market Utility

The color provides an optical readout mechanism or can provide color for a display or coating. Structural color is preferred over the use of chemical color, such as in color dyes, due to the color purity and resistance to fading. The iridescence displayed by the droplets would also be of interest to coatings or makeup, because the colors are generated without the use of nanoparticles which for health reasons, are often avoided.

Next Steps

Seeking licensing and investment. Patent pending.

TECHNOLOGY READINESS LEVEL 4-7

Seeking

Investment | Licensing | Research

Keywords

- structural color
- responsive color
- complex droplet
- Janus droplet
- coatings

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