«Fluorescence confocal microscopy of two-dimensional organic crystals»

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Two-dimensional organic semiconductor single crystals, consisting of one or more molecular layers, are promising for the production of light, flexible and transparent transistors and sensors. However, the light-emitting characteristics of many two-dimensional crystals are still unknown. Currently, the search for formulas of two-dimensional semiconductor crystals with high throughput and intense luminescence for use in optoelectronics is ongoing. Moreover, not only experimental methods are possible, but also methods for measuring the photoluminescence of two-dimensional organic films.

This paper presents a method for measuring the spectra of two-dimensional films using a confocal scanning laser microscope. 2-BTBT, which combines high transport costs and intense luminescence.

The study of the spectra of this substance showed the insignificance of the interlayer interaction in two-dimensional crystalline films, as well as the fact that the intramolecular interaction is much larger than the intermolecular one. As a result, monolayer crystal structures obtained from polarization anisotropy were discovered.