

Classification of microplastics in living organisms using a color polarization camera

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In recently years, marine pollution of microplastics is getting serious. Microplastics are less than 5mm in size. So, it is difficult to recognize with your eyes. In addition to, microorganisms and fishes mistake it for food. In food chain, when people eat fishes which eat microplastics, it is possible to have a negative effect on the body. To solve the above problem, our goal is classification of microplastics in living organisms using color polarization camera. In this study, as a preliminary step, we measured a unique birefringence depending on wavelength which plastics have and classified plastics by using it. It is known that birefringence can be measured by using circularly polarized light, our method is that circularly polarized light is passed through microplastic, and the light is measured by color polarization camera. Color polarization camera can measure birefringence depending on wavelength by snapshot. Comparing with previous research, our method can measure easier and cheaper.

Short biography:



Ryuto Hakoda was born in 2001 in Mohka, Tochigi Prefecture. He graduated from Tochigi Prefectural Mohka High School in March 2020 and entered Utsunomiya University in April. In 2021, he moved on to the Mechanical system and Optics Course in the Faculty of Engineering. He is a member of Otani Laboratory in Center for Optical Research and Education (CORE). His research field is polarization.