Workshop on polarised light

Saturday 24th June 2023

Upgrading polarisers and analysers

Since I bought my second-hand Olympus BHT in 2003, I have added all sorts of extras and slowly upgraded them when I find bargains.

My first accessories for polarised light were a linear polariser for a camera (it rests on the light output on the base and is easy to rotate) and a disc of thick polarising film as the analyser (it fits in the small gap between the head and the stand, where it is not possible to rotate it).

After finding a BHT brochure on eBay, I started looking on eBay for the most basic proper Olympus polariser and analyser. It took me several years to find them at a sensible price, but I eventually obtained them. In 2011 I found the analyser which fits in the small gap between the head and the stand, so it does not affect the tube length, and it has a slit that fits over a screw head. In 2014 I found the polariser, which is 45 mm diameter so it fits nicely in the recess on the light output that is intended for filters. Around this time, I started experimenting with pieces of plastic film as makeshift tint plates (retardation plates).

Then in 2018 at Microscopium I found what Olympus calls the “Simple Polarizing Attachment” but is not simple. It is an intermediate tube, so it increases the tube length and includes lenses to compensate for this. It includes an analyser that can be slid in and out of the light path (but not rotated), and a slot for DIN standard 6×20 mm tint plates that can also be slid in and out of the light path.

The latest acquisitions were at Microscopium in 2021, real Olympus whole wave and quarter wave retardation plates. The whole wave plate (also known as a red tint plate) produces strong colour shifts in biological and mineral specimens, but the quarter wave plate has little effect.

I would like the most advanced intermediate tube, which allows the analyser to be rotated and includes a Bertrand lens that can be focused, but they fetch several hundred pounds on eBay so I will probably never own one.

Alan Wood