

UAK participation in Arctic Cruise with K V Svalbard in Aug/Sep 2024

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From the 19th of August to the 9th of September, I was on board the Norwegian Coast Guard icebreaker KV Svalbard breaking ice in Arctic waters. The purpose of my stay was to gather data for my master project, and to learn more about how environmental research and monitoring is performed in this part of the World.

After spending one day and night in the blue town of Sortland, the ship set sail, and we performed some safety drill, getting acquainted with the Officers Lounge, airlocks, and floating vests. At the beginning of the voyage, the navigators were worried that the ice would slow us down, and that time would be a restricting factor. Luckily for us, the ice turned out to be more like “ice”, and it was no match for the formidable KV Svalbard.



Sortland

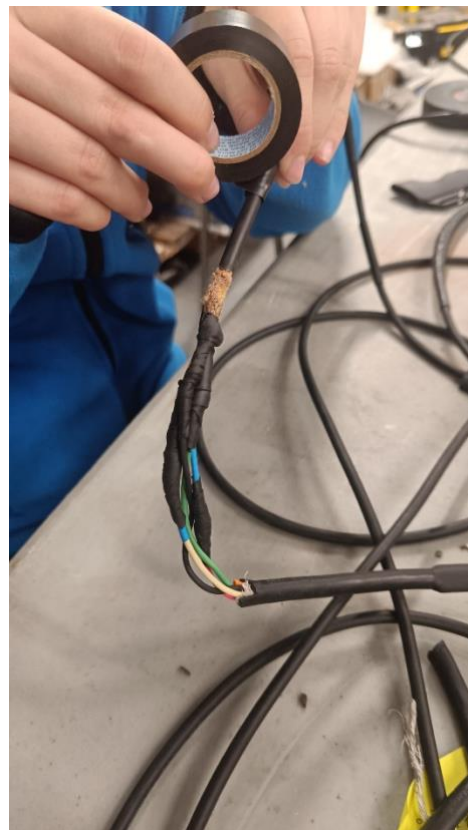
On the first proper day on the ship, I set up my instruments (Three Ramses radiometers) on the starboard side of the helideck. Two instruments measuring irradiance (one in the ultraviolet and the other in the visible regions of the spectrum) were mounted pointing skywards, as close to normal to the ocean surface as possible. The third instrument measuring radiance was mounted pointing off the ship towards the water/ice surface at a 45-degree angle. See picture.



Instruments

The three cables I had brought were connected on the one end to the three instruments on the helideck, and on the other end to my workstation situated snugly on a box below some stairs in the hangar. When asked if I wouldn't rather have a desk and chair to place my controller PC on, I replied that the system was basically autonomous, and so I would not need to stay in the hangar that often. This was wrong. Many problems were had with the instruments. After this trip I have come to understand that all measurement systems are inherently faulty, and if it seems like nothing is going wrong you are simply not looking hard enough. Anyway, in the end I had the data I wanted to retrieve, and so I am happy with the experience.

One fault worth mentioning was the silly cable. The silly cable was connected to an instrument on one end (via SubConn) and to the silly box on the other end (via a silly connector). Often, the instruments would be tired of measuring and would resist. Often, I would tell them that this was unacceptable and force them to continue measuring. I am a strict leader. Sometimes however, the instruments would not care when I told them to start measuring again, but this behaviour could be fixed by restarting their lives. After around a week on the ship, one instrument was almost completely unresponsive. It was determined to be a cable issue. The silly cable was cleaned, swapped around, twisted about, and eventually cut in half and spliced back together again (pictures below). I am very grateful towards guestmates Veronica and Chris for their invaluable aid in this regard.



Playing with wires

One day, we went in one of the smaller boats to do some measurements in the water. Two instruments were put in the water and measured light coming up in the water column, and light coming down into the water column. Some issues were had with the controller box, which had been tested earlier the 2024 UAK Research School in Espeyrend. After being trapped behind some ice floes we had to be rescued by the ship (see picture below). However,

preliminary data analysis shows that some things in the water might be glowing into the instruments, which is pretty neat.



Stuck in the ice

When not fighting my own instruments, I was part of the pinging team. After deploying the big moorings, a transponder was put in the water to do pinging. One had to make sure that the cable holding the device was not attacked by drifting ice, because taking care of your cables is important. I was also part of the team bringing the smaller instruments to the big moorings. Big mooring deployments was the action. When we were not deploying big moorings, we were waiting for the next time we were going to deploy big moorings.



Sunset?

I walked on the ice twice. I saw three polar bears. On one of the mooring retrievals there was a handful of squid. I saw a grand Russian sailing vessel. Every day I ate a fantastic lunch, and a fantastic dinner. One day I was involved in making sushi for lunch and dinner. We played many rounds of Secret Hitler and Ligretto, and when we finally found a deck of cards we played some other intense games. I learned the flying bowline. I met a lot of really nice people. Great cruise.



Polar bear



Happy