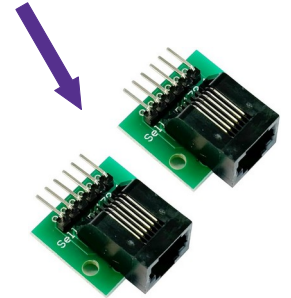
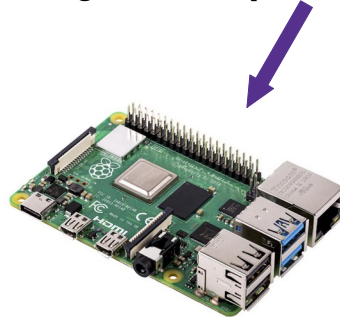


Updates on SiPM dark counts

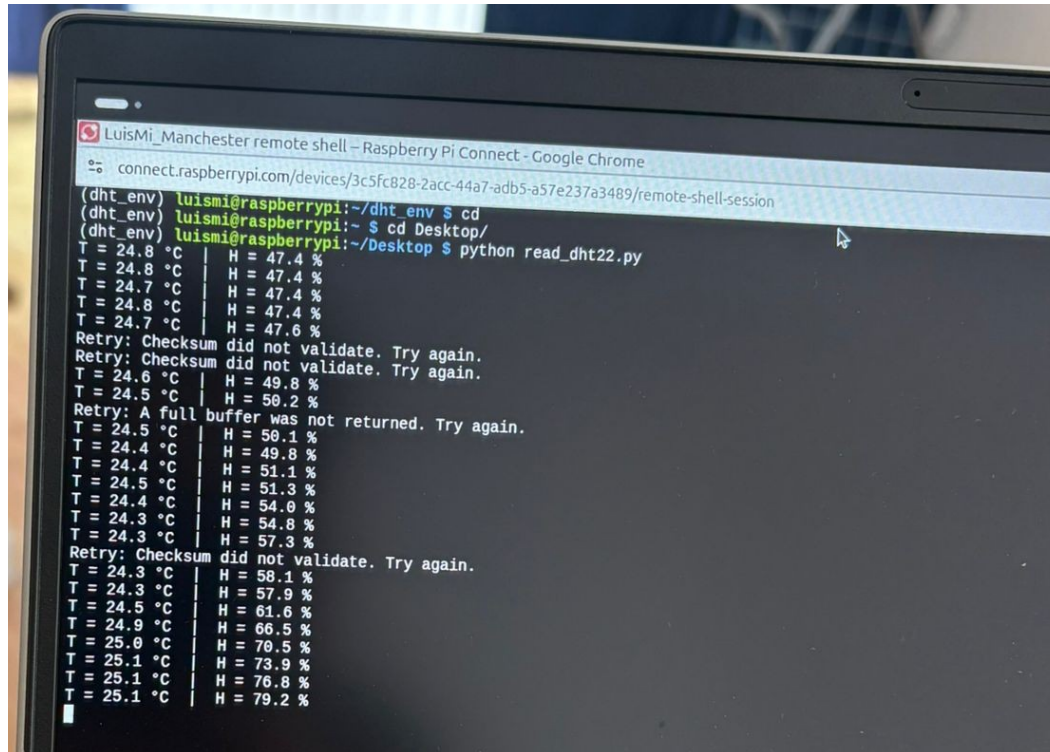
The sensor and connections



- We acquired a **DHT22 sensor** which measures connects via RJ11 cable (telephone cable).
- The sensor is meant to be connected using a module, but we can bypass this using a **breakout** and pins.
- The sensor is then read using the **Raspberry Pi**.



How does the output look like?



```
LuisMi_Manchester remote shell - Raspberry Pi Connect - Google Chrome
connect.raspberrypi.com/devices/3c5fc828-2acc-44a7-adb5-a57e237a3489/remote-shell-session

(dht_env) luismi@raspberrypi:~/dht_env $ cd
(dht_env) luismi@raspberrypi:~ $ cd Desktop/
(dht_env) luismi@raspberrypi:~/Desktop $ python read_dht22.py

T = 24.8 °C | H = 47.4 %
T = 24.8 °C | H = 47.4 %
T = 24.7 °C | H = 47.4 %
T = 24.8 °C | H = 47.4 %
T = 24.7 °C | H = 47.6 %
Retry: Checksum did not validate. Try again.
Retry: Checksum did not validate. Try again.
T = 24.6 °C | H = 49.8 %
T = 24.5 °C | H = 50.2 %
Retry: A full buffer was not returned. Try again.
T = 24.5 °C | H = 50.1 %
T = 24.4 °C | H = 49.8 %
T = 24.4 °C | H = 51.1 %
T = 24.5 °C | H = 51.3 %
T = 24.4 °C | H = 54.0 %
T = 24.3 °C | H = 54.8 %
T = 24.3 °C | H = 57.3 %
Retry: Checksum did not validate. Try again.
T = 24.3 °C | H = 58.1 %
T = 24.3 °C | H = 57.9 %
T = 24.5 °C | H = 61.6 %
T = 24.9 °C | H = 66.5 %
T = 25.0 °C | H = 70.5 %
T = 25.1 °C | H = 73.9 %
T = 25.1 °C | H = 76.8 %
T = 25.1 °C | H = 79.2 %
```

- Creates a csv file which records temperature, humidity and the timestamp.

- The default interval between measurements is 3 seconds (adjustable).

Next Steps

- We ideally want to connect more DHT22 simultaneously to check temperature and humidity outside the box/chamber.
- Automate the data collection to responds to certain conditions (improve the Python script).
- Use this sensors to measure the temperature and humidity conditions in the dark box inside the climate chamber.