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The experimental setup

This is the «Whistler»

y=T [C] (at top) u=Q [0-1] (at bottom)

First we did a step response experiment where u was increased from 0 to 1 (manual vontrol). The temperature y=T increased from 20C to 54C (new steady state). This gives k=68. The dynamics are quite slow because it takes time to heat up the glass. , $\theta=5s$, $\tau=120s$

From this we obtained the model parameters and SIMC tunings (with $\tau_c=\theta=5s$)

We then put it into automatic andf increased the setpoint to 70C. The input (u=Q) increased immediately to max=1, and we should then have stopped the integration («anit windup») but we had forgotten to do this and this is why you can see that u=Q stayed at max=1 even after y=T has oassed the setpoint... Not so good... but eventually we see that it was working well.

This can be confirmed by Ida who was the ONLY student who stayed behind to check how things went. Thanks, Ida!







