# Some issues in cascade control

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Figure 1 shows a traditional cascade loop. A disturbance in the slave control loop leads to a disturbance in the master loop which has an ”unnecessary” undershoot (Figure 2).

In Figure 3 we see the same disturbance scenario, but with the master loop in Manual.

This type of behavior is impossible to achieve without modifying the structure. Is there a modification of the structure that does not have this effect?

A different question: Is it possible to quantify when cascade control should be used? Given the disturbance variance and / or spectrum.



Figure 1



Figure 2: Cascade control. Level 1 disturbance.



Figure 3: Cascade control. No S-shape in level 2, when slave controller handles disturbance.