**23/09/2019 meeting notes**

If you have a system and a disturbance, d (can occur inside or outside the loop), so your output is y + D. You feed some of the y + D back. If you can estimate the D, you can feedforward and cancel any effect it has. MPF wants to implement disturbance and uncertainty estimation. Loudspeaker parameters change over time – if you can estimate this uncertainty, you can control against this. Linearity, against noise and age, over time. Also improves the accuracy by which you can measure certain parameters.

* Not necessary to model poweramp since they’re already pretty linear. Just buy one of correct power rating.
* Distortion of loudspeakers is 1 or 2 orders of magnitude higher than the poweramp.
* Assume that the poweramp is an op-amp.

MPF bought a switched-capacitor filter many years ago but the student using it didn’t get very far. State-variable filter 🡪 frequency-selective circuit using no inductors and large resistances. Field-programmable analogue array is just lots of state-variable filters with a variable capacitor. Anadigm FPAA.

Target market idea: Shaker tables are just big loudspeakers, if there’s one that’s really linear that’s v attractive (Any voice coil system could use this system)