Heinz, Michael G

From: Bharadwaj, Hari M
Sent: Wednesday, June 3, 2020 11:31 PM
To: Heinz, Michael G
Subject: Re: can you look over my CMR code?
Attachments: makeCMRstim_forHeinz.m

Hi Mike,

This looks very similar to what we have, with a few differences (bullets 1--3 minor, but 4 may be significant) upon cross-checking with our code:

1. the noise token for our three bands are independently generated (as opposed to a common LP noise being up-modulated)
2. the frequency separations and bandwidths of the three bands are slightly different in Hz (and equal in ERB units)
3. turns out that rather than delaying tone, we ramped the tone much more slowly than we did the noise (I misremembered)
4. turns out the near edge of LSB and USB are 2 ERB from tone frequency (rather than from outer edges of OFB, again misremembering on my part) -- so it's 1.5 gap rather than 2 ERB.

I am attaching the function we are using with some comments added. We call it with:

```
fs = 48828.125;
dur = 0.5;
fm = 10;
rampn = 0.02;
ramps = 0.15;
ofmbw = 1;
flankdist = 2;
flankbw = 1;
```

We adapt on "ofSNR". In young controls, we get ~3 dB for REF vs. CORR and ~10-12 dB for CORR vs. "UCORR" on average. On me, we get 3 dB and 8 dB. If we pool across all groups, less than 5% of individuals have CORR vs. UCORR effect of less than 3 dB.

Great to have everything on GitHub!

-Hari

From: Heinz, Michael G <mheinz@purdue.edu>
Sent: Wednesday, June 3, 2020 10:19 PM
To: Bharadwaj, Hari M <hbharadw@purdue.edu>
Cc: Heinz, Michael G <mheinz@purdue.edu>
Subject: can you look over my CMR code?

Hari,

Got the CMR paradigm setup stimulus wise, and started running chins on the REF condition today with a loud tone to make it easy – training so get these 6 chins converted over from SAM detection to tone detection in a CMR paradigm.

We've got all the code on github:
https://github.com/HeinzLabPurdue/CMRproject.git

In the CMRstimgen folder, the file CreateCMRstim is the one to run (few not used folders in there for future use once we scale up). Should be pretty easy to follow I hope – can you look through and confirm it's doing things basically the same as yours.

It's not fine-tuned yet, but just rough to get the basics set up right (then I can fine tune things, eg generate all the tone levels). Right now you set the tone level, No spectrum level, and other params and it generates std&sig for REF, CORR, UCORR. Shows them and plays them (twice).

Not sure I'm hearing a massive effect, but the CORR definitely pops out a bit more, but of course I haven't done any formal testing yet.

Thanks for checking it over.

Think we're finally getting the lab into GitHub – exciting!!

Mike

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