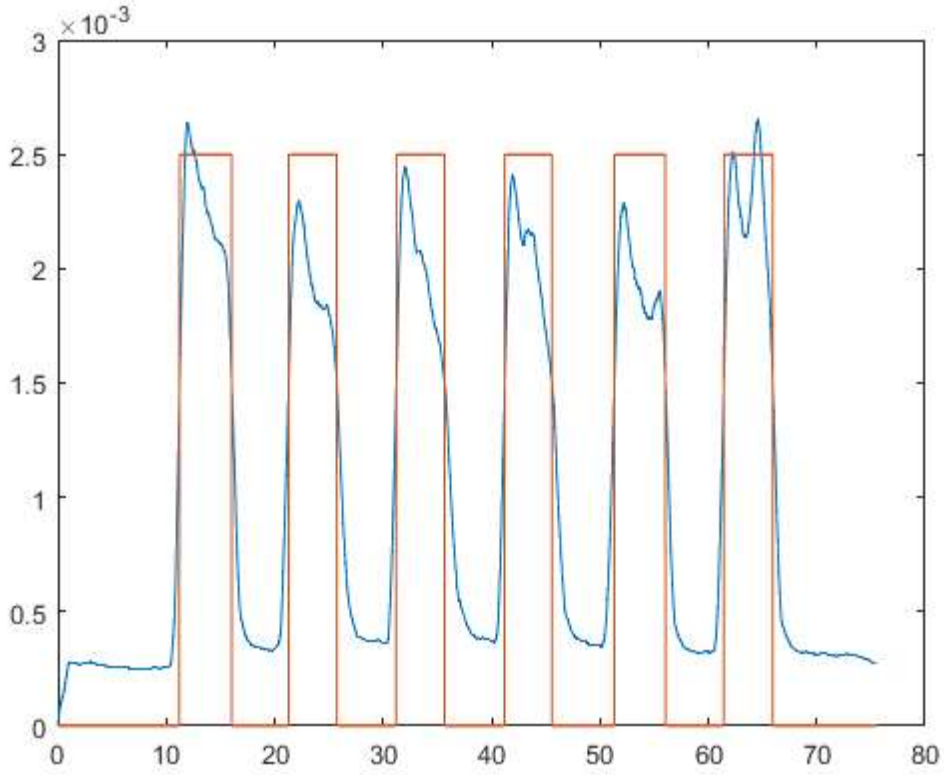
```
clear
close all

% We're here to remove "off" sections from data

load Filtered_EMG.mat
Sum1 = zeros(8,167761);
% Field names index

% Pulling the sampling rate and setting up a time vector
Fs = EMGfilt.HO.posture.Fs(1,1);
t = EMGfilt.HO.posture.Time(1,:);


Names = fieldnames(EMGfilt);

for j=1:11
    Sum1(j,:) = sum(abs(EMGfilt.(Names{j}).posture.Data),1);
    % Summing up all the signals for each posture
end

Sum2 = sum(Sum1,1);
% Summing up the posture signals

%ABS = abs(Sum2);
% Making all of the signal positive

SmoothBINsize = 5000; % bin size in ms for smoothing the data
Smoothed = smoothdata(Sum2,'movmean',(SmoothBINsize*1000/Fs));

OnOffIndex = zeros(1,167761);

for i = 1: 167761
% setting a threshold for when the combined signal is "on" vs. "off"
    if Smoothed(1,i) > 0.0015
        OnOffIndex(1,i)=1;
    else
        OnOffIndex(1,i)=0;
    end
end
% I really only need to do this the one time, so I saved the resulting
% matrix as "On_Off_index_Training"

%load("On_Off_index_Training.mat")

figure(1)
plot(t,Smoothed,t,(OnOffIndex/400))

for i = 1:11
    figure(i+1)
    for j =1:8
        subplot(4,2,j)
        plot(t,EMGfilt.(Names{i}).posture.Data(j,:),t,OnOffIndex/10000)
    end
end
```

```
EMG_on=EMGfilt;
%Making a copy of the filtered data to remove the "off" sections for
%feature extraction

for j=1:11
    for i=1:8
    EMG_on.(Names{j}).posture.Data(i,:)=EMG_on.(Names{j}).posture.Data(i,:).*OnOffIndex;
    % Multiplying everything in the "off" sections by zero
    end
    EMG_on.(Names{j}).posture.Data(:,all(EMG_on.(Names{j}).posture.Data == 0)) = [];
    % Removing columns of data that are all zeros
end
% Removing the "off" sections of data

% for i=1:11
%      figure(i+2)
%      plot(EMG_on.(Names{i}).posture.Data(2,:))
%  end
% Verifying that the "off" sections are removed

% With the exception of some trimming, it looks like I've removed the
% "off sections, I'm saving the structure as "EMG_Off_Removed.mat"
```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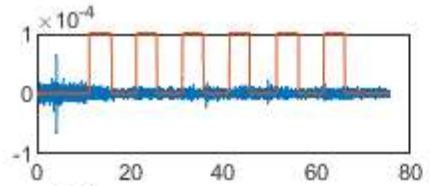
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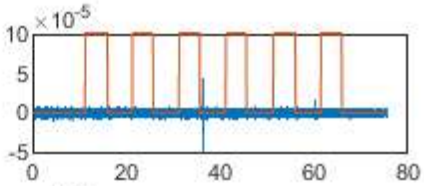
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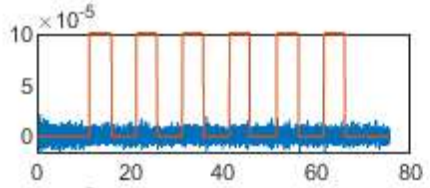
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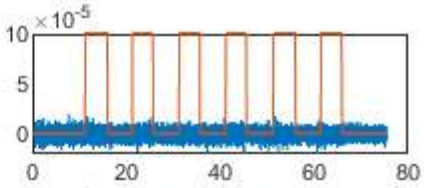
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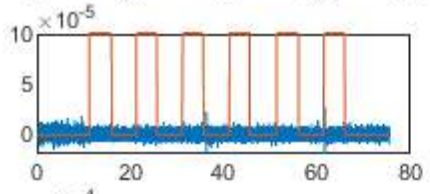
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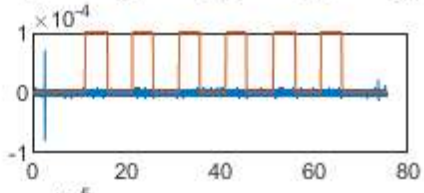
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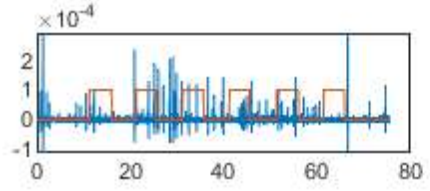
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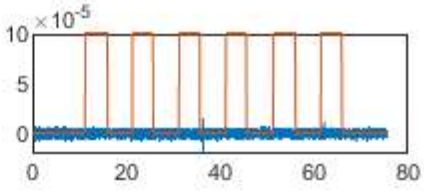
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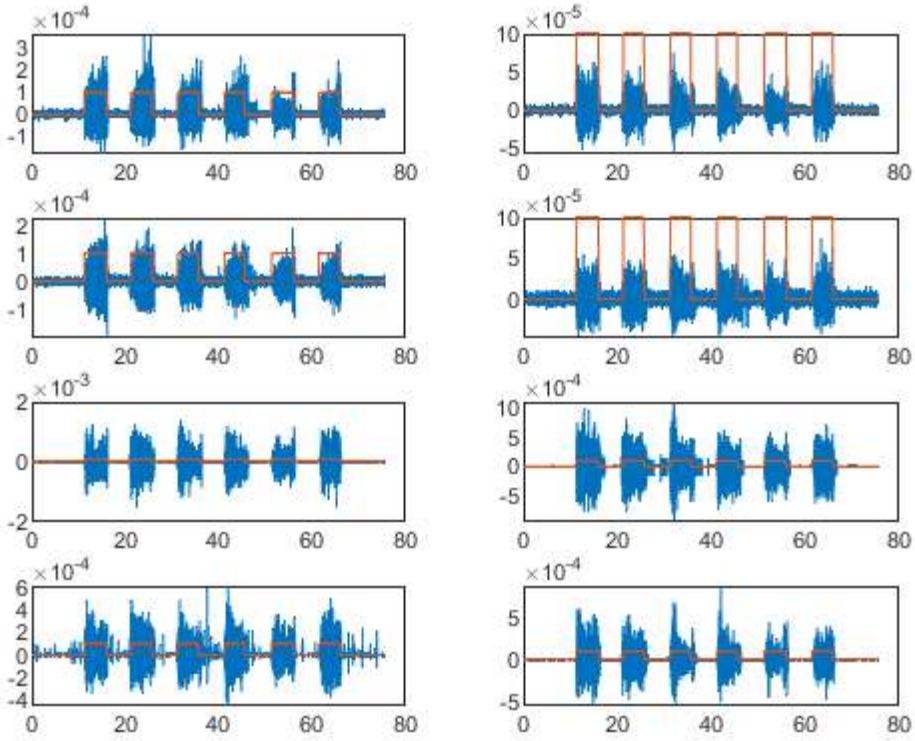
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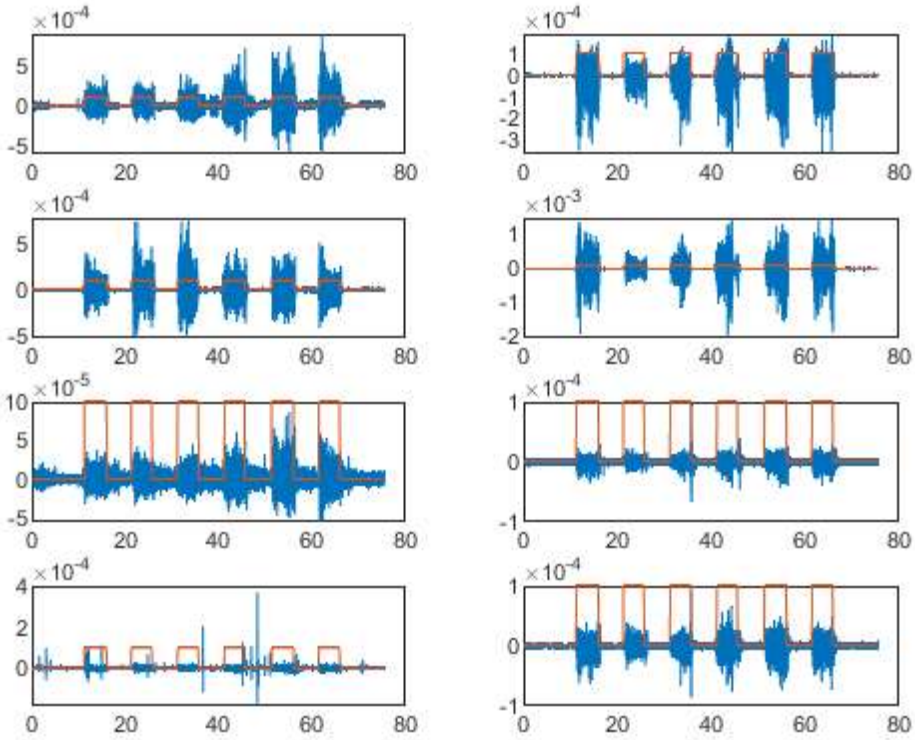
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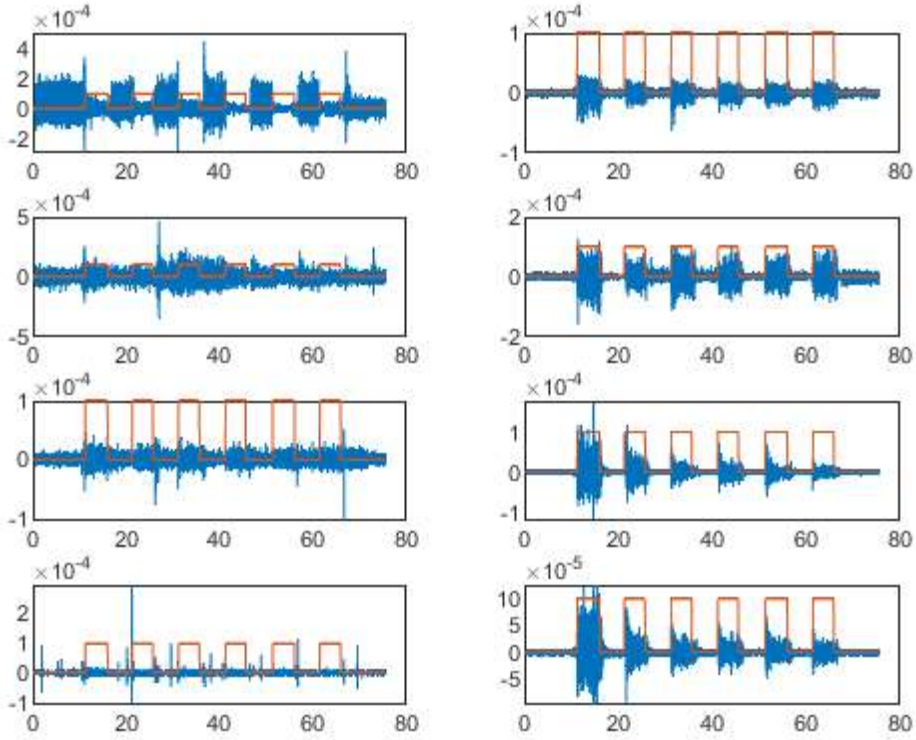
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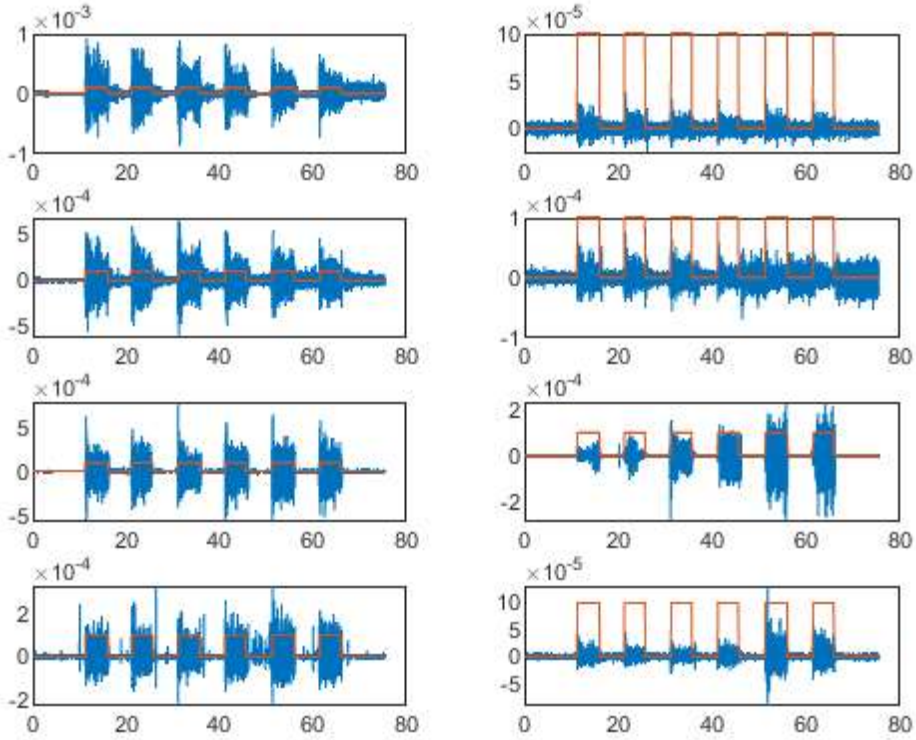
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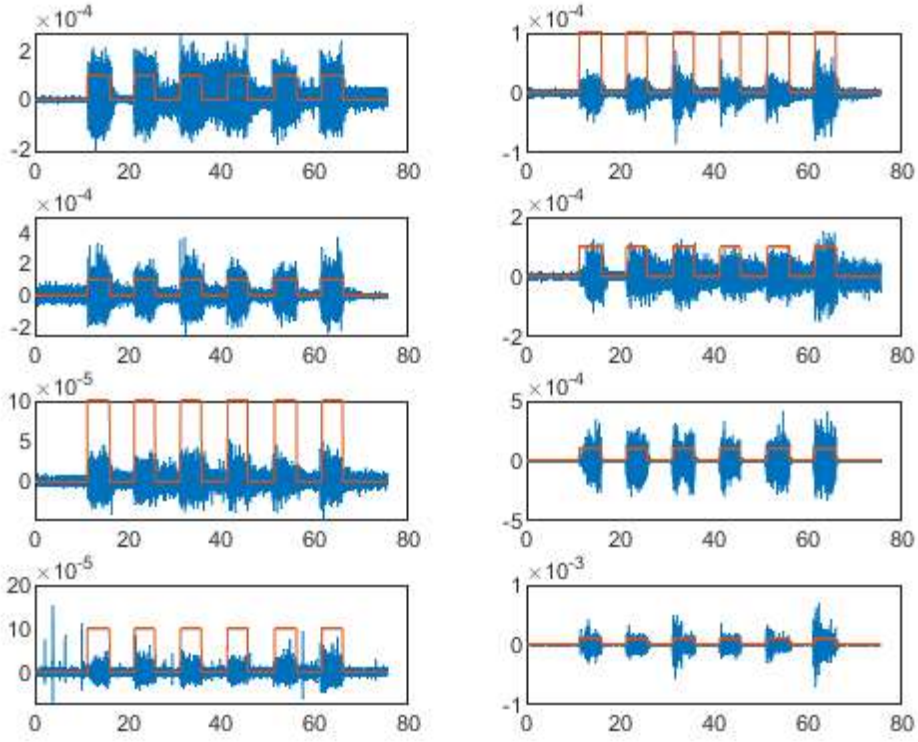
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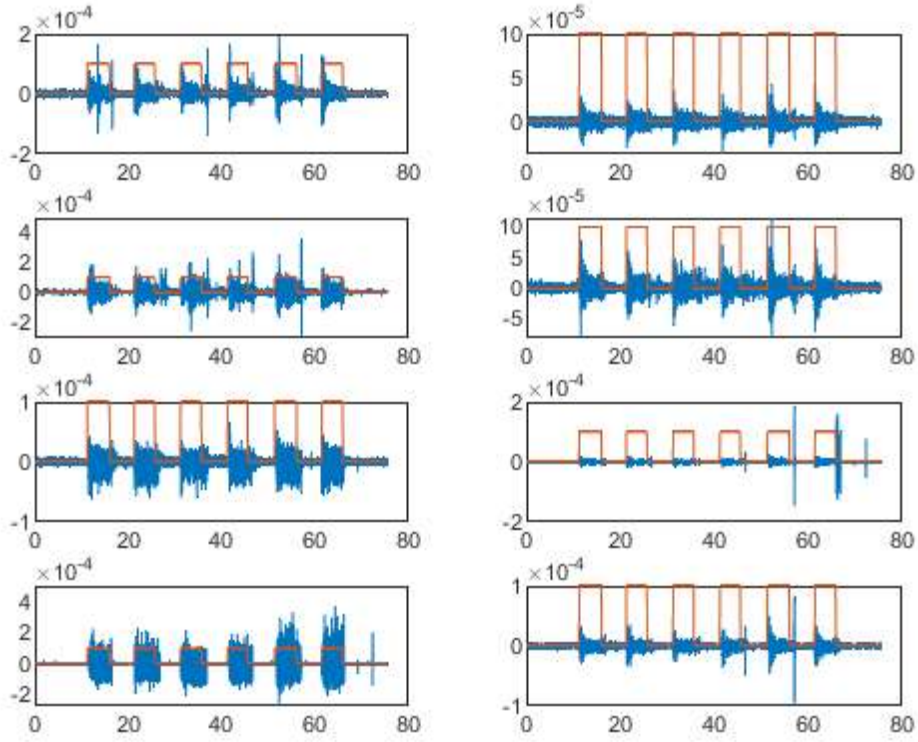
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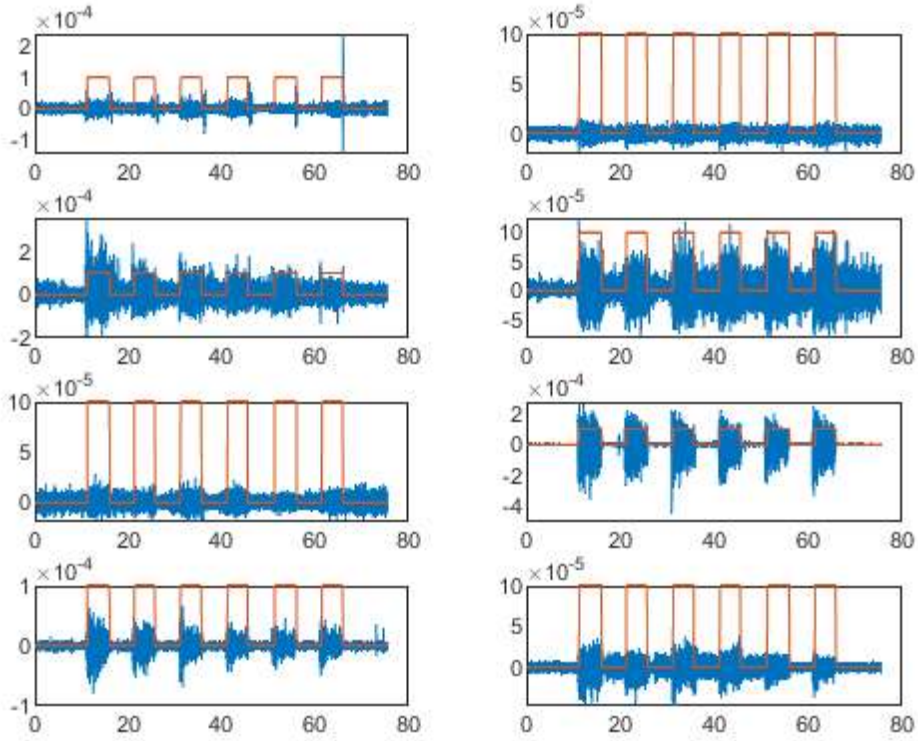
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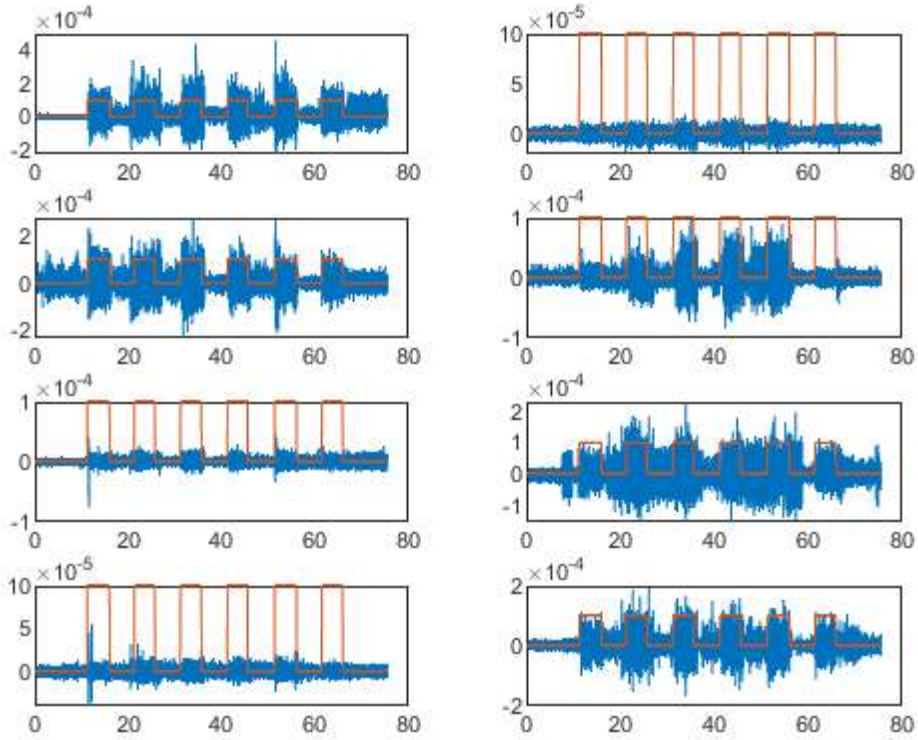
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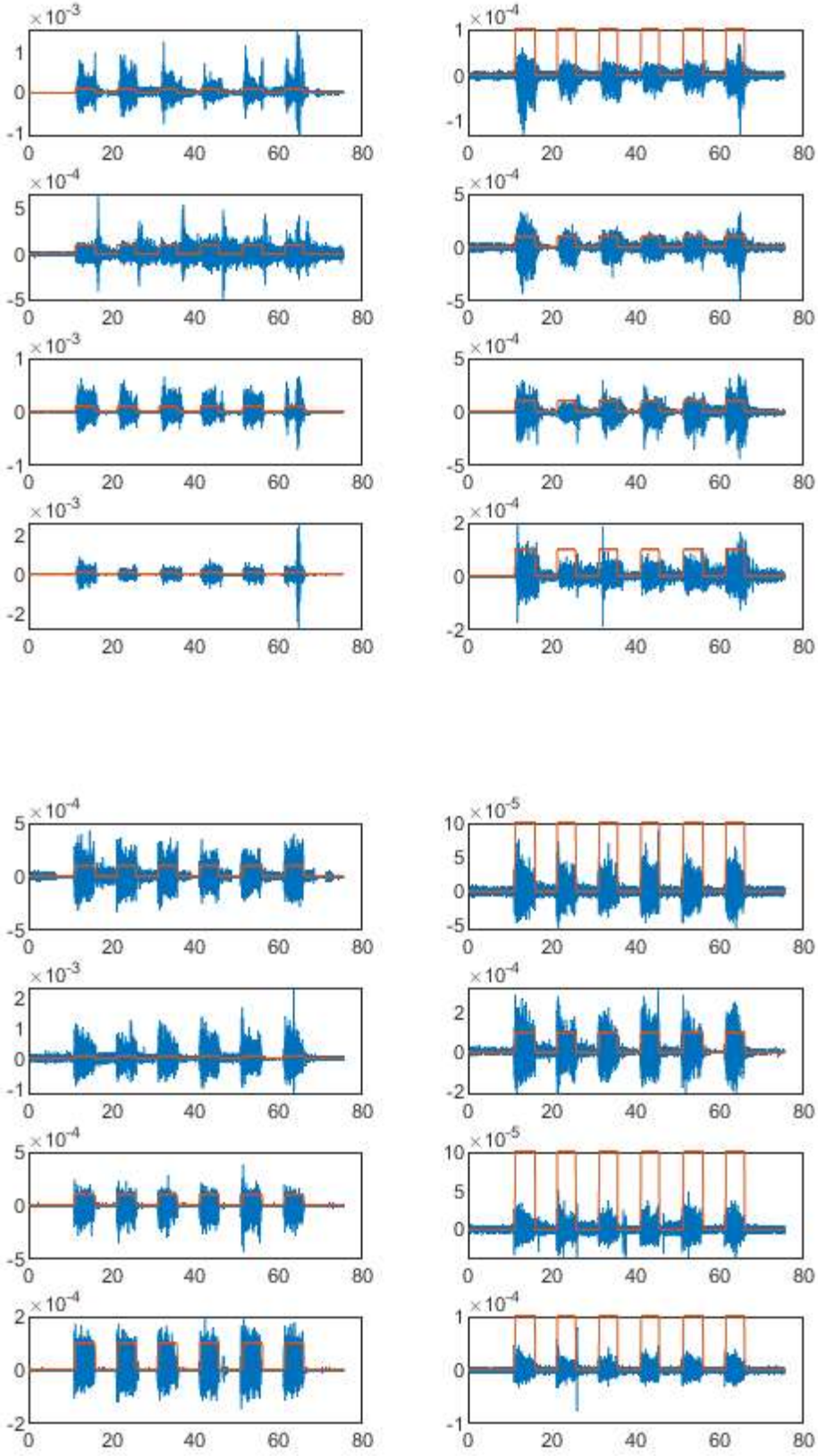

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