

Tests

```
1 load('files.mat')
2 nfiles=size(all_1000,2);
3 load('random')
4 M=[];
5 for n=[1:15 17:30 32:55]
6     N=[all_1000{n}(beat,:) all_250{n}(beat,:)];
7     RR_ccc(n)=IPN_ccc(N(:, [1 4]));
8     RT_ccc(n)=IPN_ccc(N(:, [2 5]));
9     QT_ccc(n)=IPN_ccc(N(:, [3 6]));
10    QTc=[N(:,3)./sqrt(N(:,1)) N(:,6)./sqrt(N(:,4))];
11    QTc_ccc(n)=IPN_ccc(QTc(:, [1 2]));
12
13    RR_icc(n)=IPN_icc(N(:, [1 4]),3,'single');
14    RT_icc(n)=IPN_icc(N(:, [2 5]),3,'single');
15    QT_icc(n)=IPN_icc(N(:, [3 6]),3,'single');
16    QTc_icc(n)=IPN_icc(QTc(:, [1 2]),3,'single');
17
18    RR_ibmd(n)=(sum(log2((abs(N(:,1))-N(:,4)))/(max(N(:, [1 4]), [],2))+1)))/(size(N,1));
19    RT_ibmd(n)=(sum(log2((abs(N(:,2))-N(:,5)))/(max(N(:, [2 5]), [],2))+1)))/(size(N,1));
20    QT_ibmd(n)=(sum(log2((abs(N(:,3))-N(:,6)))/(max(N(:, [3 6]), [],2))+1)))/(size(N,1));
21    QTc_ibmd(n)=(sum(log2((abs(QTc(:,1))-QTc(:,2)))/(max(QTc(:, [1 2]), [],2))+1)))/(size(QTc,1));
22
23    M=[M; [N QTc]];
24    one_per_patient(n,:)=[N(1,:) QTc(1,:)];
25
26 end
27 Result_50_beats_in_each_patient=[RR_ccc' RT_ccc' QT_ccc' QTc_ccc'],...
28 [RR_icc' RT_icc' QT_icc' QTc_icc'],...
29 [RR_ibmd' RT_ibmd' QT_ibmd' QTc_ibmd']
30 save('holter_50beats_in_each_patient_JUL15')
31
32
33 %Esta parte diz respeito ao caso de 50 batimentos de cada paciente todos
    juntos,
34 %aparece so no fim
35 Result_50_beats_in_each_patient_all=[IPN_ccc(M(:, [1 4])),...
```

```

36     IPN_ccc(M(:, [2 5])), ...
37     IPN_ccc(M(:, [3 6])), ...
38     IPN_ccc(M(:, [7 8]))]; ...
39     [IPN_icc(M(:, [1 4]), 3, 'single'), ...
40     IPN_icc(M(:, [2 5]), 3, 'single'), ...
41     IPN_icc(M(:, [3 6]), 3, 'single'), ...
42     IPN_icc(M(:, [7 8]), 3, 'single')]; ...
43     [(sum(log2((abs(M(:,1)-M(:,4)))/(max(M(:, [1 4]), [], 2))+1)))/(size(M,1))
44     , ...
45     (sum(log2((abs(M(:,2)-M(:,5)))/(max(M(:, [2 5]), [], 2))+1)))/(size(M,1))
46     , ...
47     (sum(log2((abs(M(:,3)-M(:,6)))/(max(M(:, [3 6]), [], 2))+1)))/(size(M,1))
48     , ...
49     (sum(log2((abs(M(:,7)-M(:,8)))/(max(M(:, [7 8]), [], 2))+1)))/(size(M,1))]]
50
51     %Esta parte diz respeito ao caso de 1 batimento de cada paciente todos
52     juntos
53     one_per_patient([16 31],:)=[];
54
55     Result_1.beats_in_each_patient_all=[IPN_ccc(one_per_patient(:, [1 4]))
56     , ...
57     IPN_ccc(one_per_patient(:, [2 5])), ...
58     IPN_ccc(one_per_patient(:, [3 6])), ...
59     IPN_ccc(one_per_patient(:, [7 8]))]; ...
60     [IPN_icc(one_per_patient(:, [1 4]), 3, 'single'), ...
61     IPN_icc(one_per_patient(:, [2 5]), 3, 'single'), ...
62     IPN_icc(one_per_patient(:, [3 6]), 3, 'single'), ...
63     IPN_icc(one_per_patient(:, [7 8]), 3, 'single')]; ...
64     [(sum(log2((abs(one_per_patient(:,1)-one_per_patient(:,4)))/(max(
65     one_per_patient(:, [1 4]), [], 2))+1)))/(size(one_per_patient,1)), ...
66     (sum(log2((abs(one_per_patient(:,2)-one_per_patient(:,5)))/(max(
67     one_per_patient(:, [2 5]), [], 2))+1)))/(size(one_per_patient,1)), ...
68     (sum(log2((abs(one_per_patient(:,3)-one_per_patient(:,6)))/(max(
69     one_per_patient(:, [3 6]), [], 2))+1)))/(size(one_per_patient,1)), ...
70     (sum(log2((abs(one_per_patient(:,7)-one_per_patient(:,8)))/(max(
71     one_per_patient(:, [7 8]), [], 2))+1)))/(size(one_per_patient,1))]]
72     save('holter_50_beats_in_each_patient_JUL15')
73
74     figure
75     rectangle('Position',[0,0.9,8.5,0.1],'FaceColor','g')
76     hold on

```

```

69 rectangle('Position', [8.5,0,13,0.1], 'FaceColor', 'g')
70 rectangle('Position', [0,0.7,8.5,0.2], 'FaceColor', 'y')
71 boxplot(Result_50_beats_in_each_patient, 'Labels', {'RR', 'RT', 'QT', 'QTc', 'RR',
    'RT', 'QT', 'QTc', 'RR', 'RT', 'QT', 'QTc'})
72 xlabel('CCC ICC IBMD')
73 ylabel('Reliability')
74 savefig('figure1a')
75 Result_50_beats_in_each_patient_R = Result_50_beats_in_each_patient;
76 Result_50_beats_in_each_patient_R(:,9:12) = 1-
    Result_50_beats_in_each_patient_R(:,9:12);
77 figure
78 rectangle('Position', [0,0.9,13,0.1], 'FaceColor', 'g')
79 hold on
80 rectangle('Position', [0,0.7,8.5,0.2], 'FaceColor', 'y')
81 boxplot(Result_50_beats_in_each_patient_R, 'Labels', {'RR', 'RT', 'QT', 'QTc', 'RR',
    'RT', 'QT', 'QTc', 'RR', 'RT', 'QT', 'QTc'})
82 xlabel('CCC ICC IBMD')
83 ylabel('Reliability')
84 savefig('figure2a')

```