

```
Varacum=zeros(LL,1);
figure(100)
clf
figure(101)
clf
stddev=norm(Q(1,:));%if stationary
Amplitudes=randn(LL,1);%to build✓
realization by components
shuffle=randperm(LL); %for✓
bilateral simulation
%shuffle=LL:(-1):1;%ANTICAUSAL
%shuffle=1:LL;%not shuffled, for✓
causal or PCA (K-L).
vertflag=true;
for k=1:LL
    i=shuffle(k);
    figure(100)
    Varacum=Varacum+Q(:,i).^2;
    if(k>1)
        plot(Xtest,Q(:,shuffle(1:✓
(k-1))),LineWidth=1)
    end
    hold on
```

```
    plot(Xtest,Q(:,i),LineWidth=3.✓
5), grid on
    if(k>1)
        plot(Xtest,sqrt✓
(Varacum),' :k',LineWIdth=2)
        plot(Xtest,-sqrt✓
(Varacum),' :k',LineWIdth=2)
    end
    if vertflag
        xline(Xtest(i),'g',✓
LineWidth=2)
    end
    hold off
    title("Component functions✓
(features), scaled by standard✓
dev")
    ylim([-stddev stddev]*1.8)
    fontsize(16,"points") %This✓
works from version 2023a or✓
posterior
    figure(101)
    plot(Xtest,Q(:,i)/max(Q(:,✓
i))), grid on
```

```
    text(-1.9, .25, ["i=" num2str(i) ✓  
num2str(sqrt(eevv(i))))]  
    if vertflag  
        xline(Xtest(i), 'g', ✓  
LineWidth=2)  
    end  
    ylim([-1 1])  
    title("Component functions ✓  
(features), scaled to unit ✓  
amplitude")  
    fontsize(16, "points") %This ✓  
works from version 2023a or ✓  
posterior  
    figure(102)  
    for j=1:k %superimpose ✓  
previous approximations with less ✓  
components  
        RealizTst=Q(:, shuffle(1: ✓  
j)) * Amplitudes(shuffle(1:j));  
        if j<k  
            plot(Xtest, RealizTst, ✓  
LineWidth=1, Color=[.9 .95 .7] * ((k- ✓  
j*0.3)/k)^2)
```

```
        else
            plot(Xtest,Q(:,i)✓
*Amplitudes(i),LineWidth=3,Color=✓
[.8 .2 .4])
            plot(Xtest,RealizTst,✓
LineWidth=5+0.04*sqrt(i),Color=[.1✓
.2 .4])
        end
        grid on
        hold on
    end
    ylim([-stddev stddev]*2.65)
    if vertflag
        xline(Xtest(i),'g',✓
LineWidth=2)
    end
    title("Building a realization✓
component by component")
    hold off
    ylabel("Increment with respect✓
to mean")
    fontsize(16,"points") %This✓
works from version 2023a or✓
```

15/11/23 10:47 ... 5 of 5

posterior

pause

end