function [Js,Ls,Ms,S,Jth\_T2,Jth\_SPE]=CCA\_nomal(X,Y)

% clc

% %clear all

% data=xlsread('nomal\_data.xlsx');

% Y=data(17,:);

% X=data(13:34,:);

%求均值

Y\_mean=mean(Y,2);

X\_mean=mean(X,2);

%求标准差

Y\_std = std(Y,0,2);

X\_std = std(X,0,2);

%数据归一化

[mY,nY]=size(Y);

[mX,nX]=size(X);

Y=(Y - repmat(Y\_mean,1,nY));%./repmat(Y\_std,1,nY);

X=(X - repmat(X\_mean,1,nX));%./repmat(X\_std,1,nX);

Y=transpose(Y);

X=transpose(X);

%标准模型

X\_cov = X'\*X/(nX - 1);

Y\_cov = Y'\*Y/(nY - 1);

XY\_cov = X'\*Y/(nY - 1);

Gama = (X\_cov^-0.5)\*XY\_cov\*(Y\_cov^-0.5);

r\_rank = rank(Gama);

[U,S,V] = svd(Gama);

%%%%%%%

Js = (X\_cov^-0.5) \* U(:,1:r\_rank);

Ls = (Y\_cov^-0.5) \* V(:,1:r\_rank);

Ms = Js\*S';

%计算控制限

m=mX;

n=nX;

alpha=0.95;%置信水平

%求X的协方差矩阵的最大特征值

s=cov(X);

Romita\_max=max(eig(s));

Jth\_T2=r\_rank\*(n^2-1)\*finv(alpha,r\_rank,n-r\_rank)/(n\*(n-r\_rank));

Jth\_SPE=chi2inv(alpha,r\_rank);

% % for i = 1:n

% % Rk = Ls'\*Y(i,:) - X(i,:)\*Js\*S';

% % Qcca\_train(i) = Rk\* Rk';

% % end

% % Q\_train\_mean = mean(Qcca\_train,2);

% % Q\_train\_S = mean((Qcca\_train - Q\_train\_mean).^2,2)\*n/(n-1);

% % g = Q\_train\_S/(2\*Q\_train\_mean);

% % h = 2\*Q\_train\_mean^2/Q\_train\_S;

% % % Q = g\*chi2cdf(0.95,h);

% % Q = g\*chi2inv(0.95,h);

% % Jth\_SPE=Q\*10000;