clc

clear

x1=[228.6153846,0.538461538,1.076923077,1.615384615,2.153846154,2.692307692,3.230769231,3.769230769,4.307692308,4.846153846,5.384615385,5.923076923,6.461538462,7,7.538461538,8.076923077,8.615384615,9.153846154,9.692307692,10.23076923,10.76923077,11.30769231,11.84615385,12.38461538,12.92307692,13.46153846,14,14.53846154,15.07692308];

x2=[133.9230769,0.307692308,0.615384615,0.923076923,1.230769231,1.538461538,1.846153846,2.153846154,2.461538462,2.769230769,3.076923077,3.384615385,3.692307692,4,4.307692308,4.615384615,4.923076923,5.230769231,5.538461538,5.846153846,6.153846154,6.461538462,6.769230769,7.076923077,7.384615385,7.692307692,8,8.307692308,8.615384615];

x3=[100.6923077,0.230769231,0.461538462,0.692307692,0.923076923,1.153846154,1.384615385,1.615384615,1.846153846,2.076923077,2.307692308,2.538461538,2.769230769,3,3.230769231,3.461538462,3.692307692,3.923076923,4.153846154,4.384615385,4.615384615,4.846153846,5.076923077,5.307692308,5.538461538,5.769230769,6,6.230769231,6.461538462];

y=[82.07100592,0.177514793,0.355029586,0.532544378,0.710059172,0.887573965,1.065088758,1.24260355,1.420118343,1.597633136,1.775147929,1.952662722,2.130177515,2.307692308,2.485207101,2.662721894,2.840236686,3.017751479,3.195266272,3.372781065,3.550295858,3.727810651,3.905325444,4.082840237,4.260355029,4.437869822,4.615384615,4.792899408,4.970414202]';

x1\_train=x1(1:15)';

x2\_train=x2(1:15)';

x3\_train=x3(1:15)';

x1\_test=x1(15:29)';

x2\_test=x2(15:29)';

x3\_test=x3(15:29)';

y\_train=y(1:15);

y\_test=y(15:29);

X\_train=[x1\_train,x2\_train,x3\_train];

X\_test=[x1\_test,x2\_test,x3\_test];

Y\_train=y\_train;

Y\_test=y\_test;

X\_train=X\_train';

Y\_train=Y\_train';

X\_test=X\_test';

Y\_test=Y\_test';

N = size(X\_test,2);

net = newrbe(X\_train,Y\_train,30);

T\_sim=sim(net,X\_test);

T\_test=Y\_test;

error=abs(T\_sim-T\_test)./T\_test;

R2 = (N \* sum(T\_sim .\* T\_test) - sum(T\_sim) \* sum(T\_test))^2 / ((N \* sum((T\_sim).^2) - (sum(T\_sim))^2) \* (N \* sum((T\_test).^2) - (sum(T\_test))^2));

result=[T\_test' T\_sim' error'];

figure

plot(1:N,T\_test,'b:\*',1:N,T\_sim,'r-o')

legend('真实值','预测值')

xlabel('预测样本')

ylabel('回收率')

string = {'预测结果对比';['R^2=' num2str(R2)]};

title(string)