# 【算法设计】



# 【程序代码】

w=0.5;

c1=2;

c2=2;

minfs=zeros();

v=unifrnd(-2,2,3,2);

x=unifrnd(-10,10,3,2);

for i=1:3

f(i)=x(i,1)^2+x(i,2)^2;

end

pBest=x;

[minf,index]=min(f);

gBest=pBest(index,:);

a=1;

minfs(a)=minf;

while(minf>0.01)

for i=1:3

for j=1:2

v(i,j)=w\*v(i,j)+c1\*rand()\*(pBest(i,j)-x(i,j))+c2\*rand()\*(gBest(j)-x(i,j));

x(i,j)=x(i,j)+v(i,j);

if x(i,j)<-10

x(i,j)=-10;

end

if x(i,j)>10

x(i,j)=10;

end

end

end

for i=1:3

f1(i)=x(i,1)^2+x(i,2)^2;

if f1(i)<f(i)

f(i)=f1(i);

pBest(i,:)=x(i,:);

end

end

[minf,index]=min(f);

gBest=pBest(index,:);

a=a+1;

minfs(a)=minf;

end

plot(minfs,'o-');

# 【实验结果】

