```matlab
%####################################################################
##########
%====================================================================
=========
%////////////////////////////////////////////////////////////////////
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%
%  'Revealing novel power laws and quantization in electrospinning
considering
%  jet splitting-towards predicting fiber diameter and its distribution'

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%
%   This program is for calculation of the functions 50 to 54 in the paper
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%////////////////////////////////////////////////////////////////////
%====================================================================
=========
%####################################################################
##########

%
clear;
format long;
imshow('boss.png');
zuobiao_input=inputdlg({'<d>/sqrt<d^2>','<d>/Cube root<d^3>'},'Input the
values');
zuobiao=[str2num(zuobiao_input{1}) str2num(zuobiao_input{2})];


for A=1:100
   AA=A/10;
   for B=1:100
      BB=B/10;


      sumd=0;
      sumdd=0;
      sumddd=0;
      sumdfix=0;
      for j=1:500
         d(j)=1/sqrt(j)*j*exp(-AA/j-BB*sqrt(j));
         sumd=sumd+d(j);
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            dd(j)=exp(-AA/j-BB*sqrt(j));
            sumdd=sumdd+dd(j);

            ddd(j)=1/sqrt(j)*exp(-AA/j-BB*sqrt(j));
            sumddd=sumddd+ddd(j);

            dfix(j)=j*exp(-AA/j-BB*sqrt(j));
            sumdfix=sumdfix+dfix(j);

        end
        sumdfix_result(A,B)=sumdfix;
        sumd_result(A,B)=sumd;
        sumdd_result(A,B)=sumdd;

        sumdd_sqrt(A,B)=sqrt(sumdd);
        sumddd_3ndsqrt(A,B)=nthroot(sumddd,3);

            ratio1(A,B)=sumd/sumdd_sqrt(A,B)/sqrt(sumdfix_result(A,B));

            ratio2(A,B)=sumd/sumddd_3ndsqrt(A,B)/(sumdfix^(2/3));
        result_sum(A,B)=sqrt((ratio1(A,B)-zuobiao(1))^2+(ratio2(A,B)-
zuobiao(2))^2);

    end
end
[row1,column1]=find(result_sum==min(min(result_sum)));

C=1;

for CC=(row1-1)/10:0.01:(row1+1)/10
  D=1;
   for DD=(column1-1)/10:0.01:(column1+1)/10

        sumd2=0;
        sumdd2=0;
        sumddd2=0;
        sumdfix2=0;
        for j=1:500
            d2(j)=1/sqrt(j)*j*exp(-CC/j-DD*sqrt(j));
            sumd2=sumd2+d2(j);

            dd2(j)=exp(-CC/j-DD*sqrt(j));
            sumdd2=sumdd2+dd2(j);

            ddd2(j)=1/sqrt(j)*exp(-CC/j-DD*sqrt(j));
            sumddd2=sumddd2+ddd2(j);

            dfix2(j)=j*exp(-CC/j-DD*sqrt(j));
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            sumdfix2=sumdfix2+dfix2(j);

        end
        sumdfix_result2(C,D)=sumdfix2;
        sumd_result2(C,D)=sumd2;
        sumdd_result2(C,D)=sumdd2;

        sumdd_sqrt2(C,D)=sqrt(sumdd2);
        sumddd_3ndsqrt2(C,D)=nthroot(sumddd2,3);

        ratio1_2(C,D)=sumd2/sumdd_sqrt2(C,D)/sqrt(sumdfix_result2(C,D));

        ratio2_2(C,D)=sumd2/sumddd_3ndsqrt2(C,D)/(sumdfix2^(2/3));
    result_sum2(C,D)=sqrt((ratio1_2(C,D)-zuobiao(1))^2+(ratio2_2(C,D)-
zuobiao(2))^2);
   D=D+1;
   end
   C=C+1;
end
[row2,column2]=find(result_sum2==min(min(result_sum2)));

A_value2=(row1-1)/10+(row2-1)/100;
B_value2=(column1-1)/10+(column2-1)/100;


E=1;

for EE=(A_value2-0.01):0.001:(A_value2+0.01)
  F=1;
   for FF=(B_value2-0.01):0.001:(B_value2+0.01)

     sumd3=0;
     sumdd3=0;
     sumddd3=0;
     sumdfix3=0;
     for j=1:500
        d3(j)=1/sqrt(j)*j*exp(-EE/j-FF*sqrt(j));
        sumd3=sumd3+d3(j);

        dd3(j)=exp(-EE/j-FF*sqrt(j));
        sumdd3=sumdd3+dd3(j);

        ddd3(j)=1/sqrt(j)*exp(-EE/j-FF*sqrt(j));
        sumddd3=sumddd3+ddd3(j);

        dfix3(j)=j*exp(-EE/j-FF*sqrt(j));
        sumdfix3=sumdfix3+dfix3(j);
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        end
        sumdfix_result3(E,F)=sumdfix3;
        sumd_result3(E,F)=sumd3;
        sumdd_result3(E,F)=sumdd3;

        sumdd_sqrt3(E,F)=sqrt(sumdd3);
        sumddd_3ndsqrt3(E,F)=nthroot(sumddd3,3);

            ratio1_3(E,F)=sumd3/sumdd_sqrt3(E,F)/sqrt(sumdfix_result3(E,F));

            ratio2_3(E,F)=sumd3/sumddd_3ndsqrt3(E,F)/(sumdfix3^(2/3));
        result_sum3(E,F)=sqrt((ratio1_3(E,F)-zuobiao(1))^2+(ratio2_3(E,F)-
zuobiao(2))^2);
        F=F+1;
        end
        E=E+1;
end
[row3,column3]=find(result_sum3==min(min(result_sum3)));




A_value3=A_value2-0.01+(row3-1)/1000;
B_value3=B_value2-0.01+(column3-1)/1000;


A_value_char=num2str(A_value3);
B_value_char=num2str(B_value3);

f=msgbox({'Calculation Accuracy: 0.001';'A value:';A_value_char;'B
value:';B_value_char;});
% for A=1:5
%     for B=1:5
%
%
%     end
```