

```
SetDirectory[NotebookDirectory[]];  
<<tuxingbujian3dfunction.m;  
<<tuxingbujian2dfunction.m;  
<<zuhe.m;  
  
Manipulate[ {Framed[Graphics3D[  
If[t == 0 || t ==  
finaltime[ky, kL, kh, If[flag, ks, 100 Sqrt[(kL / 100)^2 - ((kL / 100) - (kh / 100))^2]]],  
{process3D[ky, kx, kL, kh, If[flag, ks,  
100 Sqrt[(kL / 100)^2 - ((kL / 100) - (kh / 100))^2]}],  
processBall[ky, kx, kL, kh, If[flag, ks,  
100 Sqrt[(kL / 100)^2 - ((kL / 100) - (kh / 100))^2]},  
km1, km2, e, ΔEf, g, t], {GrayLevel[0.7], EdgeForm[],  
Polygon[{ {-20, -40, -0.6}, {20, -40, -0.6}, {20, 40, -0.6}, {-20, 40, -0.6} }]],  
Polygon[{ {-20, -40, -1}, {-20, 40, -1}, {-20, 40, 50}, {-20, -40, 50} }]],  
Polygon[{ {-20, 40, -1}, {20, 40, -1}, {20, 40, 50}, {-20, 40, 50} } ]}],  
{process2D[ky, kL, kh, If[flag, ks, 100 Sqrt[(kL / 100)^2 - ((kL / 100) - (kh / 100))^2]}],  
processBall[ky, kx, kL, kh,  
If[flag, ks, 100 Sqrt[(kL / 100)^2 - ((kL / 100) - (kh / 100))^2]},  
km1, km2, e, ΔEf, g, t] ]], SphericalRegion → True,  
ViewPoint → {b Sin[α] Cos[β], b Sin[α] Sin[β], b Cos[α]}, ImageSize → size,  
Boxed → False, Lighting → "Neutral",  
PlotRange → {{-20, 20}, {-40, 40}, {-1, 50}} ] ],  
(*Titel*)  
Item[Style["计算机全真模拟下的对碰撞打靶能量损失的进一步研究 ", {25, Red, Bold}],  
ControlPlacement → Top],  
Item[" ", ControlPlacement → Top],  
(*Title*)  
Delimiter,  
(*11111111111111111111111111111111*)  
Item[Style["介绍与相关程序", {Blue, 15}], ControlPlacement → Left],  
Item[" ", ControlPlacement → Left],  
Item[  
Row[{PopupWindow[Button["实验原理"], "实验原理"],  
PopupWindow[Button["操作方法"], "操作方法"],  
Button["恢复系数e测量数据处理",  
CreateDialog[  
{FrontEndExecute[FrontEndToken["ToggleDynamicUpdating"]], processe},  
Enabled → True, WindowTitle → "恢复系数e测量数据处理", WindowFloating → True] ] },  
Spacer[4]],  
ControlPlacement → Left],  
(*11111111111111111111111111111111*) Delimiter,  
(*22222222222222222222222222222222*)  
Item[Style["图像调整", {Blue, 15}], ControlPlacement → Left],
```





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      100  $\sqrt{(kL/100)^2 - ((kL/100) - (kh/100))^2}$  ] ] } ,
    ups, ImageSize → Large] & } ] ,
  Control[{{ups, 0.1, ""}, InputField[#, FieldSize → 3,
    Background → GrayLevel[0.9]] & }],
  " ", Button[Style["输出报告", {Red, 15}], If[t == finaltime[ky, kL, kh,
    If[flag, ks, 100  $\sqrt{(kL/100)^2 - ((kL/100) - (kh/100))^2}$  ] ]],
  CreateDialog[Panel[
    Style[
      StringForm["被撞球打靶位置模拟结果：`1` cm", NumberForm[finalx, {4, 2}]],
      {Red, 20}], Background → White], WindowFloating → True,
      WindowTitle → "实验报告"]],
    ImageSize → {80, 30} ] ] } , Background → GrayLevel[0.8] ] ] ,
  ControlPlacement → Left],
  Initialization → (g = 9.796; flag = True; ks = 15;), SaveDefinitions → True
] // Framed

```

# 计算机全真模拟下的对碰撞打靶能量损失的近一步研究

## 介绍与相关程序

实验原理   操作方法   恢复系数  $e$  测量数据处理

## 图像调整

观察距离   $\pm$  1 . 5  
水平旋转   $\pm$   $-\frac{\pi}{6}$   
改变俯角   $\pm$   $\frac{\pi}{3}$   
放大缩小   $\pm$  6 0 0

## 碰撞小球及实验台的性质

撞击球的质量  $m_1$    $\pm$  3 2 . 7  
被撞球的质量  $m_2$    $\pm$  3 2 . 6  
恢复系数   $\pm$  0 . 9 4  
球柱高度   $\pm$  1 5 . 7

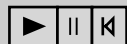
## 实验调节

实验调节控制面板

## 模拟

开始模拟

速率



0 . 1

输出报告

