L'ensemble du code nécessaire à l'exécution de la fonction RouleTaBille est rassemblé ici :

```
rot(A,theta,P):=[ A[1]+cos(theta)*(P[1]-A[1])-sin(theta)*(P[2]-A[2]),
                   A[2]+sin(theta)*(P[1]-A[1])+cos(theta)*(P[2]-A[2])]$

tra(V,P):=[P[1]+V[1],P[2]+V[2]]$

SRiemann(_f,a,b,n):= sum(_f(a+(b-a)/n*i)*(b-a)/n,i,1,n)$

RouleTaBille2(P,r,T,i):=block(
      [t,u,M,N,O,PrimV,S,a,v],
      assume(t>0),
      v:sqrt((diff(P[1],t))**2+(diff(P[2],t))**2),
      N:[-diff(P[2],t)/v,diff(P[1],t)/v],
      O:tra(i*r*N,P),
      S(t):=integrate(subst(u,t,v),u,0,t),
      a:-i*S(t)/r,
      M:rot(O,a,P),
      factor(trigsimp(fullratsimp(M)))
)$

RouleTaBille3(P,r,T,i):=block(
      [t,u,M,N,O,PrimV,S,a],
      v:sqrt((diff(P[1],t))**2+(diff(P[2],t))**2),
      N:[-diff(P[2],t)/v,diff(P[1],t)/v],
      O:tra(i*r*N,P),
      z(u):=subst(u,t,v),
      S:SRiemann(lambda([u],z(u)),0,t,max(30,?round(float(30*(T[2]-T[1]))))),
      a:-i*S/r,
      M:rot(O,a,P),
      plot2d([[parametric,M[1],M[2]],[parametric,P[1],P[2]]],
               [t,T[1],T[2]],[nticks,300],[gnuplot_curve_titles,notitle])
)$

Test(expr,i):=block(
    [s,testOk],
    testOk:false,
    partswitch:true,
    load("stringproc"),
    s:part(expr,i),
    while (is(s#end)) do
    (if (atom(s))
         then (if sequal(s,"%integrate") then testOk:true)
         else Test(s,0),

      i:i+1,
      s:part(expr,i)
    ),
    return(testOk)
)$

RouleTaBille(P,r,T,i):=block(
      [t,u,M,N,O,PrimV,S,a,v],
      v:sqrt((diff(P[1],t))**2+(diff(P[2],t))**2),
      N:[-diff(P[2],t)/v,diff(P[1],t)/v],
      O:tra(i*r*N,P),
      PrimV:integrate(subst(u,t,v),u),
      if (Test(PrimV,0))
         then (
            RouleTaBille3(P,r,T,i),RouleTaBille2(P,r,T,i)
            )
         else (
               S:ev(PrimV,u=t)-ev(PrimV,u=0),
               a:-i*S/r,
               M:rot(O,a,P),
               plot2d([[parametric,M[1],M[2]],[parametric,P[1],P[2]]],[t,T[1],T[
                        [nticks,300],[gnuplot_curve_titles,notitle]),
               factor(trigsimp(fullratsimp(M)))
               )
)$
```