> R<w> := GaloisRing(2^2, 5);

> R;

> x:=[\* Zero(R), One(R) \*];

> F:=[\* \*];

> ya:=F;

> yb:=F;

> for i1 := 1 to 30 by 1 do

> x:=Append(x,(R.1^2+2\*R.1+1)^i1);

>end for;

> Tra := function(a,b);

> T:=0;

> for k in [0,1,2,3,4] do

> T:=T+(a)^(2^k)+2\*(b^(2^k));

> end for;

> return T;

> end function;

> for i1 := 1 to 32 by 1 do

> for i2 := 1 to 32 by 1 do

> for i3 := 1 to 32 by 1 do

> y1:=x[i3]\*((x[i1]^2)\*x[i3]+x[i1]\*Tra(x[i3],x[1])+Tra(x[i1]\*x[i3],x[1])+2\*x[i2]);

> F:=Append(F,y1);

> end for;

> end for;

>end for;

> for i1 := 1 to 32\*32\*32 by 1 do

> for i2 := 1 to 32 by 1 do

> for i3 := 1 to 32 by 1 do

> if F[i1] eq (x[i2]+2\*x[i3]) then

> ya:=Append(ya,Tra(x[i2],x[i3]));

> break i2;

> end if;

> end for;

> end for;

>end for;

> kk:=0;

> for i2 := 1 to 32 by 1 do

> for i3 := 1 to 32 by 1 do

> print "\n", ya[i3+kk], ya[i3+kk+32],ya[i3+kk+32\*2],ya[i3+kk+32\*3],ya[i3+kk+32\*4],ya[i3+kk+32\*5],ya[i3+kk+32\*6],ya[i3+kk+32\*7],ya[i3+kk+32\*8],ya[i3+kk+32\*9],ya[i3+kk+32\*10],ya[i3+kk+32\*11],ya[i3+kk+32\*12],ya[i3+kk+32\*13],ya[i3+kk+32\*14],ya[i3+kk+32\*15],ya[i3+kk+32\*16],ya[i3+kk+32\*17],ya[i3+kk+32\*18],ya[i3+kk+32\*19],ya[i3+kk+32\*20],ya[i3+kk+32\*21],ya[i3+kk+32\*22],ya[i3+kk+32\*23],ya[i3+kk+32\*24],ya[i3+kk+32\*25],ya[i3+kk+32\*26],ya[i3+kk+32\*27],ya[i3+kk+32\*28],ya[i3+kk+32\*29],ya[i3+kk+32\*30],ya[i3+kk+32\*31];

> end for;

> kk:=32\*32\*i2;

> end for;

QUTRITS-KANTOR

F<x> := FiniteField(3^3);

F;

w:=[\* Zero(F), One(F) \*];

F1:=[\* \*];

ya:=F1;

yb:=F1;

for i1 := 1 to 25 by 1 do

w:=Append(w,(F.1)^i1);

end for;

m:=w;

v:=w;

for i1 := 1 to 27 by 1 do

for i2 := 1 to 27 by 1 do

for i3 := 1 to 27 by 1 do

y1:=Trace(w[i3]\*(m[i1]\*(w[i3]^9)+(m[i1]\*w[i3])^3))/2+Trace(w[i3]\*v[i2]);

F1:=Append(F1,y1);

end for;

end for;

end for;

F1[27\*27\*27];

kk:=0;

for i2 := 1 to 27 by 1 do

for i3 := 1 to 27 by 1 do

print "\n", F1[i3+kk], F1[i3+kk+27],F1[i3+kk+27\*2],F1[i3+kk+27\*3],F1[i3+kk+27\*4],F1[i3+kk+27\*5],F1[i3+kk+27\*6],F1[i3+kk+27\*7],F1[i3+kk+27\*8],F1[i3+kk+27\*9],F1[i3+kk+27\*10],F1[i3+kk+27\*11],F1[i3+kk+27\*12],F1[i3+kk+27\*13],F1[i3+kk+27\*14],F1[i3+kk+27\*15],F1[i3+kk+27\*16],F1[i3+kk+27\*17],F1[i3+kk+27\*18],F1[i3+kk+27\*19],F1[i3+kk+27\*20],F1[i3+kk+27\*21],F1[i3+kk+27\*22],F1[i3+kk+27\*23],F1[i3+kk+27\*24],F1[i3+kk+27\*25],F1[i3+kk+27\*26];

end for;

kk:=27\*27\*i2;

end for;

QUTRITS-Estándar

F<x> := FiniteField(3^3);

F;

w:=[\* Zero(F), One(F) \*];

F1:=[\* \*];

ya:=F1;

yb:=F1;

for i1 := 1 to 25 by 1 do

w:=Append(w,(F.1)^i1);

end for;

m:=w;

v:=w;

for i1 := 1 to 27 by 1 do

for i2 := 1 to 27 by 1 do

for i3 := 1 to 27 by 1 do

y1:=Trace(m[i1]\*(w[i3]^2)+w[i3]\*v[i2]);

F1:=Append(F1,y1);

end for;

end for;

end for;

F1[27\*27\*27];

kk:=0;

for i2 := 21 to 27 by 1 do

for i3 := 1 to 27 by 1 do

print "\n", F1[i3+kk], F1[i3+kk+27],F1[i3+kk+27\*2],F1[i3+kk+27\*3],F1[i3+kk+27\*4],F1[i3+kk+27\*5],F1[i3+kk+27\*6],F1[i3+kk+27\*7],F1[i3+kk+27\*8],F1[i3+kk+27\*9],F1[i3+kk+27\*10],F1[i3+kk+27\*11],F1[i3+kk+27\*12],F1[i3+kk+27\*13],F1[i3+kk+27\*14],F1[i3+kk+27\*15],F1[i3+kk+27\*16],F1[i3+kk+27\*17],F1[i3+kk+27\*18],F1[i3+kk+27\*19],F1[i3+kk+27\*20],F1[i3+kk+27\*21],F1[i3+kk+27\*22],F1[i3+kk+27\*23],F1[i3+kk+27\*24],F1[i3+kk+27\*25],F1[i3+kk+27\*26];

end for;

kk:=27\*27\*i2;

end for;