

```
ClearAll["Global`*"]  
SetDirectory[NotebookDirectory[]]  
C:\Users\Javier\Desktop\Física\Prácticas\Mathematica\Propagación  
MB 3 niveles\MBCPRFiles\Everything in 4000 Loop Files
```

CUIDADO: GUARDAR EL PROGRAMA EN CARPETA PROPIA CON EL FICHERO CREACION DATOS Y PONER LA MISMA J(NUMERO DE ITERACIONES)

```
j = 20;  
(*j is the number of loops*)  
Doc = 1;  
LoopsPerDoc = 4000;  
i = 1;  
CohR12 = {};  
CohI12 = {};  
CohR13 = {};  
CohI13 = {};  
CohR23 = {};  
CohI23 = {};
```

```

Do[
  Clear[iteration, Files];
  iteration = {};
  Files = {};
  iteration = OpenRead[StringJoin["Popu_Cohe_Rabi_", ToString[Doc], ".txt"]];
  Files = Read[iteration];
  Close[StringJoin["Popu_Cohe_Rabi_", ToString[Doc], ".txt"]];

  If[j - LoopsPerDoc * Doc > 0,

    Do[
      CoheR12 = Append[CoheR12, Files[[i, 4]]];
      CoheI12 = Append[CoheI12, Files[[i, 5]]];
      CoheR13 = Append[CoheR13, Files[[i, 6]]];
      CoheI13 = Append[CoheI13, Files[[i, 7]]];
      CoheR23 = Append[CoheR23, Files[[i, 8]]];
      CoheI23 = Append[CoheI23, Files[[i, 9]]];
      i++,
      {LoopsPerDoc}];

    , (*Coma entre condicion cierta o falsa del IF*)

    Do[
      CoheR12 = Append[CoheR12, Files[[i, 4]]];
      CoheI12 = Append[CoheI12, Files[[i, 5]]];
      CoheR13 = Append[CoheR13, Files[[i, 6]]];
      CoheI13 = Append[CoheI13, Files[[i, 7]]];
      CoheR23 = Append[CoheR23, Files[[i, 8]]];
      CoheI23 = Append[CoheI23, Files[[i, 9]]];
      i++,
      {j - LoopsPerDoc * (Doc - 1)}];

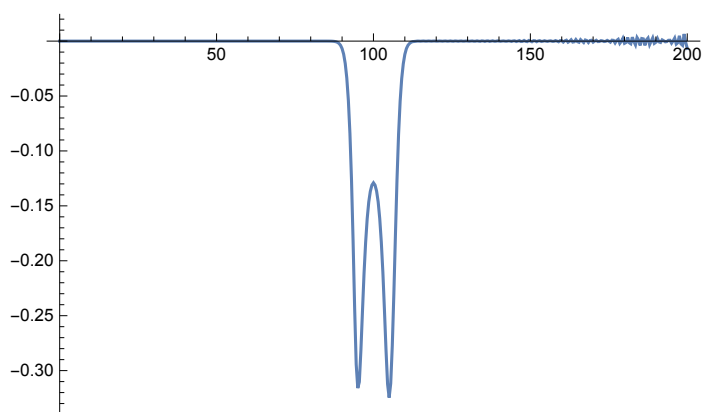
  ];

  Doc ++,
  {IntegerPart[j / LoopsPerDoc] + 1}];

Clear[Files];

ListLinePlot[{CoheR12[[20]]}], PlotRange -> All]

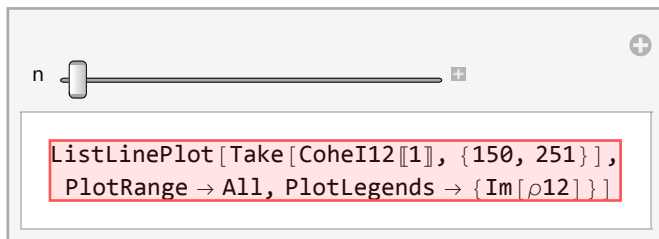
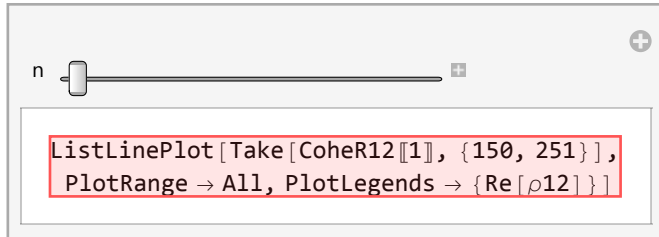
```



```

Manipulate[
  a = Take[CoheR12[[n]], {150, 251}];
  ListLinePlot[a, PlotRange → All, PlotLegends → {"Re[ $\rho_{12}$ "}], {{n, 1}, 1, j, 1}]
Manipulate[
  a = Take[CoheI12[[n]], {150, 251}];
  ListLinePlot[a, PlotRange → All, PlotLegends → {"Im[ $\rho_{12}$ "}], {{n, 1}, 1, j, 1}]

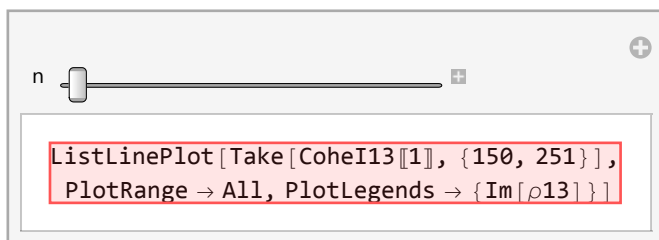
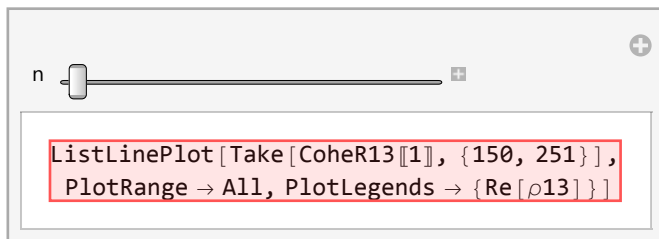
```



```

Manipulate[
  a = Take[CoheR13[[n]], {150, 251}];
  ListLinePlot[a, PlotRange → All, PlotLegends → {"Re[ $\rho_{13}$ "}], {{n, 1}, 1, j, 1}]
Manipulate[
  a = Take[CoheI13[[n]], {150, 251}];
  ListLinePlot[a, PlotRange → All, PlotLegends → {"Im[ $\rho_{13}$ "}], {{n, 1}, 1, j, 1}]

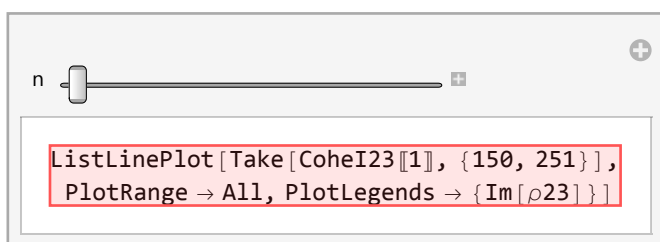
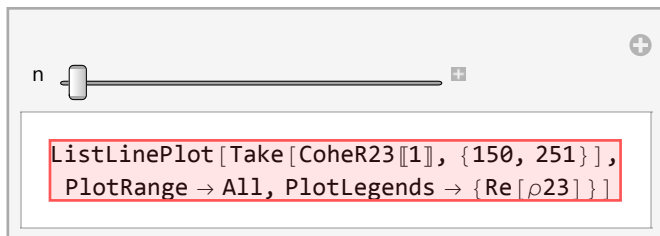
```



```

Manipulate[
  a = Take[CoheR23[[n]], {150, 251}];
  ListLinePlot[a, PlotRange → All, PlotLegends → {"Re[ $\rho_{23}$ "}], {{n, 1}, 1, j, 1}]
Manipulate[
  a = Take[CoheI23[[n]], {150, 251}];
  ListLinePlot[a, PlotRange → All, PlotLegends → {"Im[ $\rho_{23}$ "}], {{n, 1}, 1, j, 1}]

```



- ... **Part:** Part specification CoheI23[[1]] is longer than depth of object.
- ... **Take:** Cannot take positions 150 through 251 in CoheI23[[1]].
- ... **Part:** Part specification CoheI23[[1]] is longer than depth of object.
- ... **Take:** Cannot take positions 150 through 251 in CoheI23[[1]].
- ... **ListLinePlot:** Take[CoheI23[[1]], {150, 251}] is not a list of numbers or pairs of numbers.
- ... **ListLinePlot:** Take[CoheI23[[1]], {150, 251}] is not a list of numbers or pairs of numbers.
- ... **ListLinePlot:** Take[CoheI23[[1]], {150, 251}] is not a list of numbers or pairs of numbers.
- ... **General:** Further output of ListLinePlot::lpln will be suppressed during this calculation.
- ... **Part:** Part specification CoheR23[[1]] is longer than depth of object.
- ... **Take:** Cannot take positions 150 through 251 in CoheR23[[1]].
- ... **ListLinePlot:** Take[CoheR23[[1]], {150, 251}] is not a list of numbers or pairs of numbers.
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- ... **ListLinePlot:** Take[CoheR23[[1]], {150, 251}] is not a list of numbers or pairs of numbers.
- ... **General:** Further output of ListLinePlot::lpln will be suppressed during this calculation.

```

Lista2Rρ12 = {};
Lista2Iρ12 = {};
Lista2Rρ13 = {};
Lista2Iρ13 = {};
Lista2Rρ23 = {};
Lista2Iρ23 = {};
n = 1;
Do[
  Lista2Rρ12 = Append[Lista2Rρ12, Drop[Flatten[CoheR12[[n]]], {1, 802, 2}]];
  Lista2Iρ12 = Append[Lista2Iρ12, Drop[Flatten[CoheI12[[n]]], {1, 802, 2}]];
  Lista2Rρ13 = Append[Lista2Rρ13, Drop[Flatten[CoheR13[[n]]], {1, 802, 2}]];
  Lista2Iρ13 = Append[Lista2Iρ13, Drop[Flatten[CoheI13[[n]]], {1, 802, 2}]];
  Lista2Rρ23 = Append[Lista2Rρ23, Drop[Flatten[CoheR23[[n]]], {1, 802, 2}]];
  Lista2Iρ23 = Append[Lista2Iρ23, Drop[Flatten[CoheI23[[n]]], {1, 802, 2}]];
  n = n + 1,
  {j}];

```

```
ListDensityPlot[Lista2Rρ12, PlotRange → All,  
  PlotLegends → Automatic, ColorFunction → "Rainbow", PlotLabel → "Re[ρ12]"]  
ListDensityPlot[Lista2Iρ12, PlotRange → All, PlotLegends → Automatic,  
  ColorFunction → "Rainbow", PlotLabel → "Im[ρ12]"]
```

