Demo_5_Lapis_2019

April 8, 2019

```julia
In [13]: using LinearAlgebra, FFTW


         # Dot product test example using operators rather than matrices
         # Fourier DFT matrices and its Hermitian Transpose are replaced by
         # on-the-flight FFTs

         M = 512

         x1 = randn(M)
         y1 = fft(x1)

         y2 = randn(M)
         x2 = M*ifft(y2)

         dot_x = x1'*x2
         dot_y = y1'*y2

         println(dot_x)
         println(dot_y)

-110.77609766210026 + 430.83403211904454im
-110.77609766210006 + 430.83403211904454im
```