

§ F. Applications of Jordan form

See the following sections of [oldnotes.pdf](#) for applications of diagonalization and Jordan form to systems of linear differential and difference equations:

I.3

IV.5

See also the file [expmatrix.pdf](#) for some important background information.

One particularly important identity is $\exp(P^{-1}AP) = P^{-1}\exp(A)P$.

This is because $\exp(B)$ is particularly easy to compute if B is a Jordan matrix, and in the next chapter we shall show that

A & B represent the same linear transformation in different bases \iff there is some invertible matrix P such that $B = P^{-1}AP$.