

Introduction to PLAPACK

I. Plan:

- General facts you need to use PLAPACK
- A bit of related algebra
- Code for this problem
- Some older results for how parallelization works with this code.

General Information

On our cluster PLAPACK is installed in:

`/cluster/plapack-3.2.1`

Notice, that to use PLAPACK we have to work with MPICH, not LAM MPI. We have a version of MPICH.

To make MPICH default MPI you would need to write in your `.bash_profile` something like:

```
export MPIRUN_HOME=/opt/mpich/ch-p4/bin
```

```
export PATH=/opt/mpich/ch-p4/bin:$PATH
```

More General Information

Make sure you have right paths in the Make.include file

Look into Makefile used to compile program.

Notice, this is the case when you definitely want to use Makefile: you don't want to type this manually each time. For example:

```
ParaUltraSlice : #$(SLICEOBSJS) #$(PLAPACKLIB)
    $(CC) $(CFLAGS) -c -o ParaUltraSlice.o ParaUltraSlice.c
    $(LINKER) -o ./ParaUltraSlice $(LFLAGS) $(SLICEOBSJS)
    $(PLAPACKLIB) $(RMATH) $(LIB)
```

In place of \$(CFLAGS) only you have to specify couple lines of options including location of PLAPACK, type of machine and operating system, etc.