

Programming Techniques for Scientific Simulations

Exercise 11

Problem 11.1 Fast matrix-matrix multiplication

The aim of this week's exercise is to program a fast library for matrix-matrix multiplication of dense, real square matrices. As a first step, implement a simple multiplication function with the interface:

```
void mult(const double* A, const double* B, double* C, int n)
```

Once you have a correct implementation you add improvements while keeping the interface fixed. Some suggestions for improvements have been made in the lecture – apart from using a smarter algorithm you might want to exploit caching effects and vectorization, but of course we welcome any additional ideas you have!