28/07/2017 Meeting Notes (Prof D. Soudris, H. Timko, S. Xydis, K. Iliakis)

- Agreed to 1 meeting per month
    - Next meeting on 8/9/17
- Accuracy of math computations needed for BLonD:
    - There might be phases where double precision is not needed so we can fall back to single precision to gain in speed
    - **Action point Konstantinos :** Measure the speedup gained by using single precision floats in some core functions
- Convolution matrices:
    - Different implementations for sparse/ dense matrices
    - **Action point Konstantinos – Helga :** Are the matrices sparse or not?
- Apply for access to the Greek Super Computer ARIS
    - Also have a look at STFC UK Super computer
    - We can start from smaller scales but apply for bigger systems if needed
- **Action Point Konstantinos:** What are the typical FFT sizes and values used?
- **Action Point Konstantinos:**
    - Use a graph to sum the levels of parallelism we can exploit in out code. It will help to better understand BLonD
    - Also a summary of the data structures and Algorithms used
- ISPASS conference:
    - Deadline end of September
    - **Action point Konstantinos:** Prepare table of contents to target this conference
    - The impact of BLonD in accelerator physics should be part of the paper
    - Memory behaviour analysis:
        - Cache misses etc
        - Bandwidth
        - This will allow us to experiment with resource allocation
- Create a shared dropbox folder
- We can use the infrastructure of micro lab for power consumption measurements