

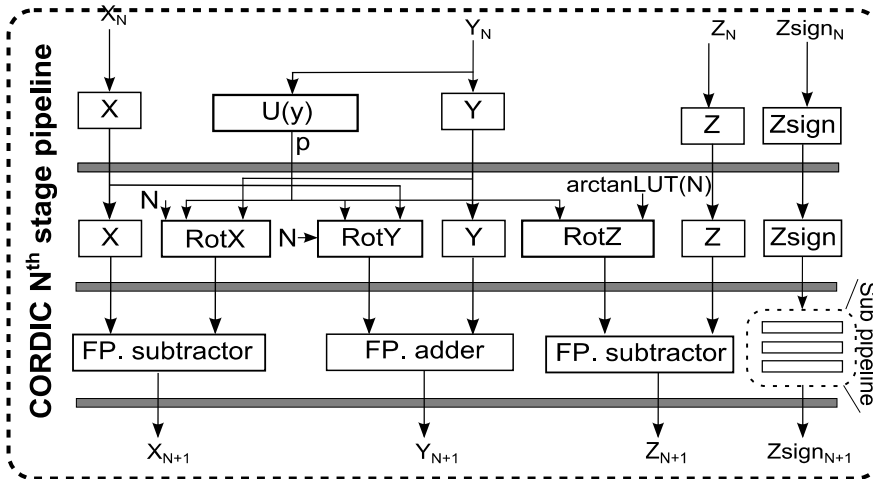
TECHNISCHE
UNIVERSITÄT
DARMSTADT

MES



LOEWE – Landes-Offensive zur Entwicklung
Wissenschaftlich-ökonomischer Exzellenz

Studien-, Bachelor-, Master-, Diplomarbeit



Topic

Design and Implementation of Floating-Point Square Root, Division, Logarithmic and Exponent Functions

Description

Beside basic operations such as adding, subtracting and multiplication, there are also arithmetic operations such as square root, division, logarithmic, exponent function, etc, which are used to perform computing algorithms in a scientific computing application. There are some methods that can be used to implement the operations such as CORDIC (COordinate Rotation DIgital Computer) method. A challenge to implement an IP core of the functions by using VHDL or Verilog HDL based on floating-point data format is proposed. Student who has interest can **select one of the function units**, which he/she prefers to design. The performance and logic area of the selected function will be analysed by using Design Vision tool from Synopsys.

Skills

- Familiar Matlab/Simulink.
- Knowledge of VHDL or Verilog HDL.

Contact

If you have interest in the topic please feel free to contact us.

The Art of

Adapting

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