NORTHERN ARIZONA UNIVERSITY | School of Informatics, Computing, and Cyber Systems

NPC Converter for Wind Turbines.

Mohamed Aldihani, Lazim Almutairi,& Abdulelah Alajlan.

2019-2020

Mohamed Aldihani,Team Leader, & Client Contact.

Abdulelah Alajlan,Treasurer.

Lazim Almutairi,Time Scheduler.

Mohamed Aldihani

Overview:

- Intro: Client and Project.
- Work breakdown structure(WBS).
- Timeline and responsibilities of all team.
- The Project Results.

Client:

Dr. Venkata Yaramasu.

Assistant Professor of Electrical Engineering School of Informatics, Computing and Cyber Systems (SICCS).

Lazim Almutairi

Fig.1 NPC Converter project by team.

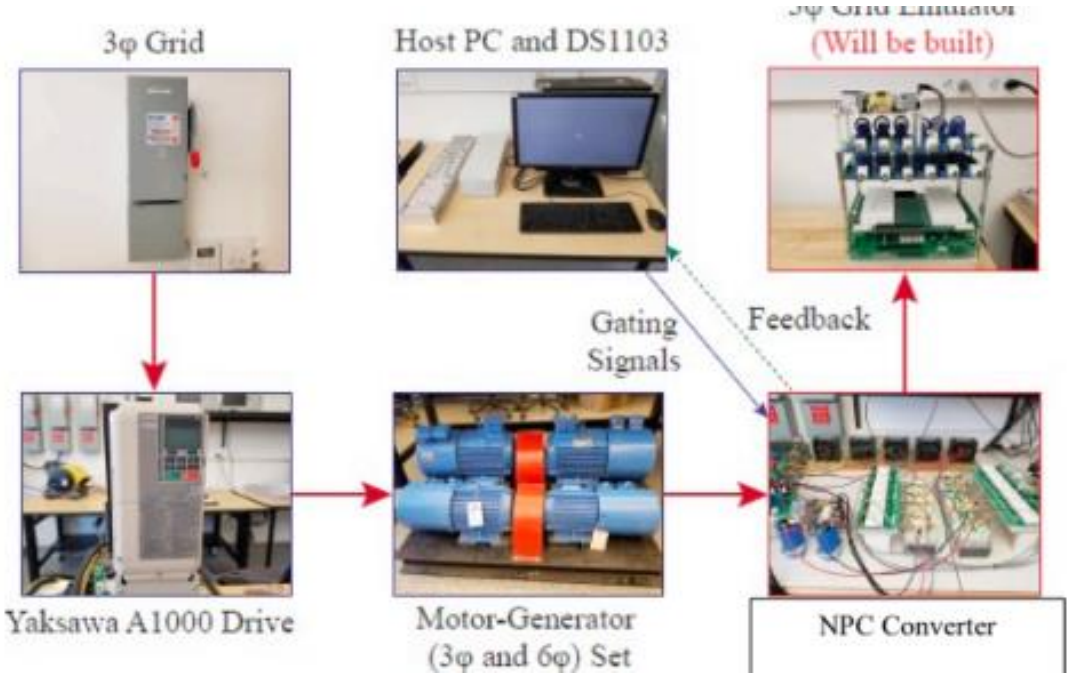


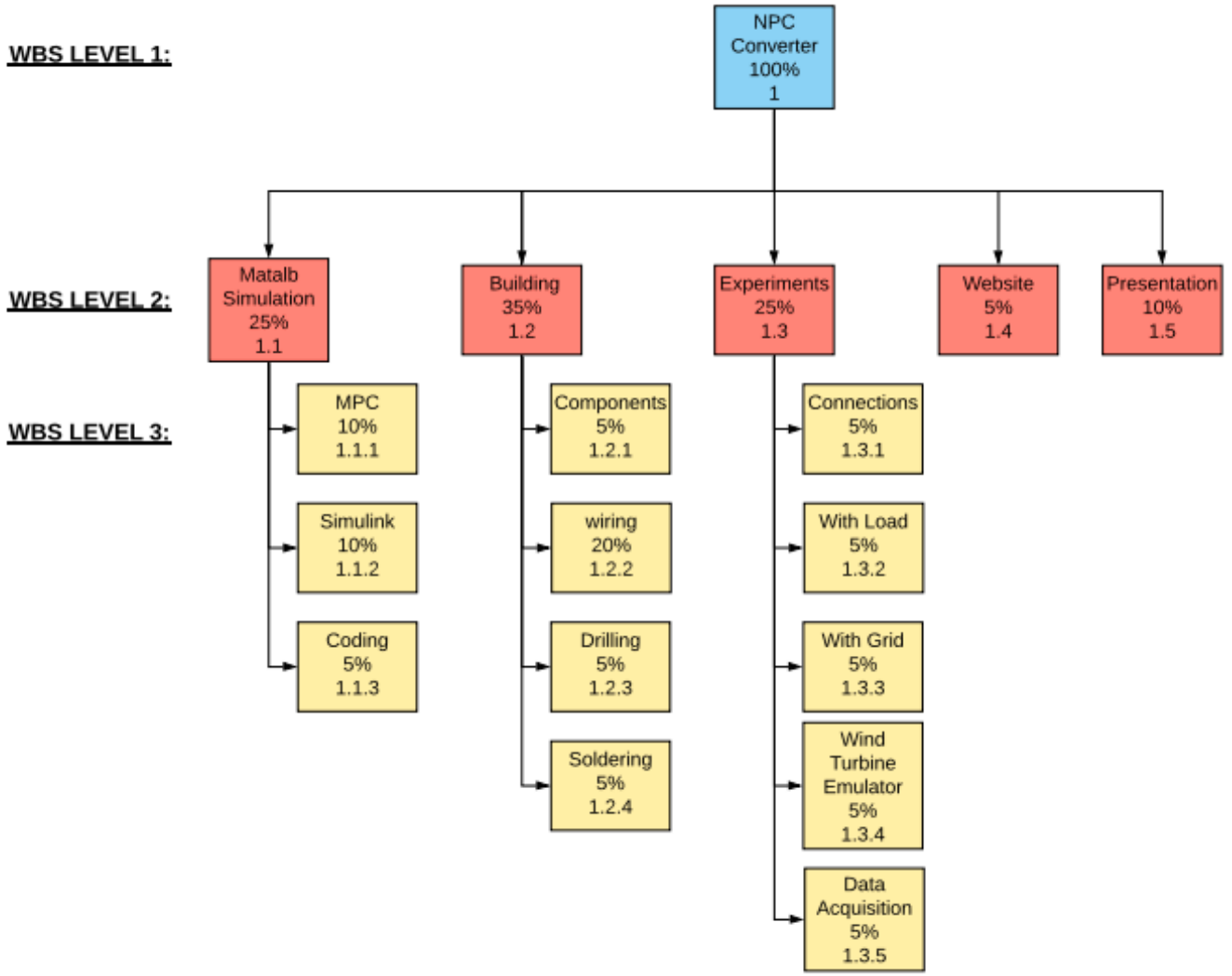
Fig.2 Diagram of NPC Converter project.

NPC Converter for Wind Turbines.

Abdulelah Alajlan

Work breakdown structure (WBS).

Work Breakdown Structure (WBS) for Neutral Point Clamped (NPC) Converter



Timeline and Responsibilities (Mohamed Aldihani).

Timeline:

Duration	Start	Finish	Predecessors	Assigned To
48d	02/05/20	04/10/20	6	1.3 Experiments
17.25d	02/05/20	02/28/20		1.3.1 Connections

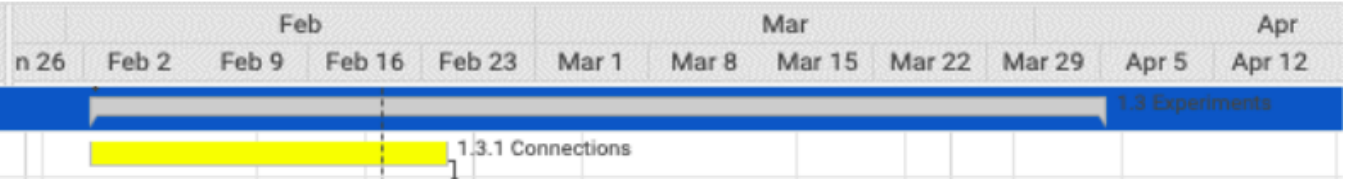


Fig. 4 Timeline Mohamed Aldihani.

Timeline and Responsibilities (Mohamed Aldihani).

Responsibilities:

- Connect all Devices of NPC Converter Project.
- Protection.

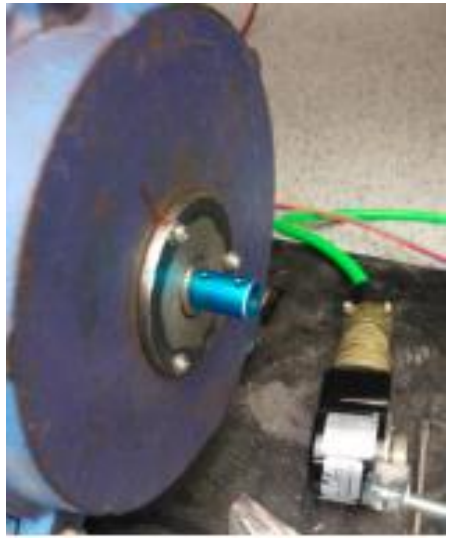


Fig.3 Shaft Coupling 8mm with motor.

Fig.4 Motor With speed sensor (encoder).

Mohamed Aldihani

Video: Shaft Coupling 8mm

Timeline and Responsibilities (Lazim Almutairi).

Timeline:

Duration	Start	Finish	Predecessors	Assigned To
48d	02/05/20	04/10/20	6	1.3 Experiments
17.25d	02/05/20	02/28/20		1.3.1 Connections
11.75d	02/28/20	03/16/20	12	1.3.2 With Load
7.75d	03/17/20	03/26/20	13	1.3.3 With Grid

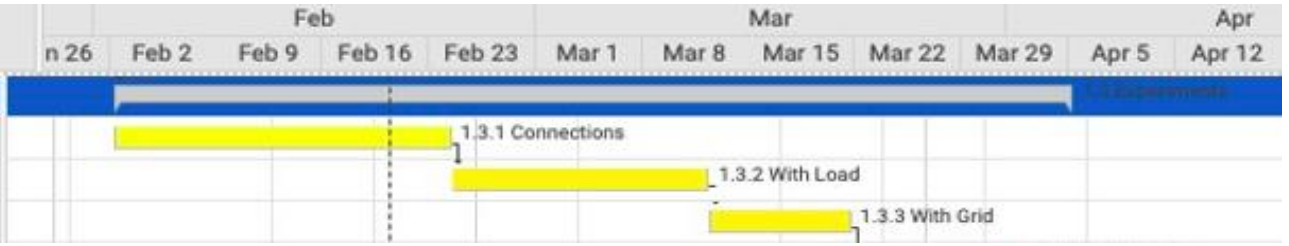


Fig.7 Timeline Lazim Almutairi.

Timeline and Responsibilities (Lazim Almutairi).

Responsibilities:

- Check NPC Converter with load.
- Check NPC Converter with Grid.

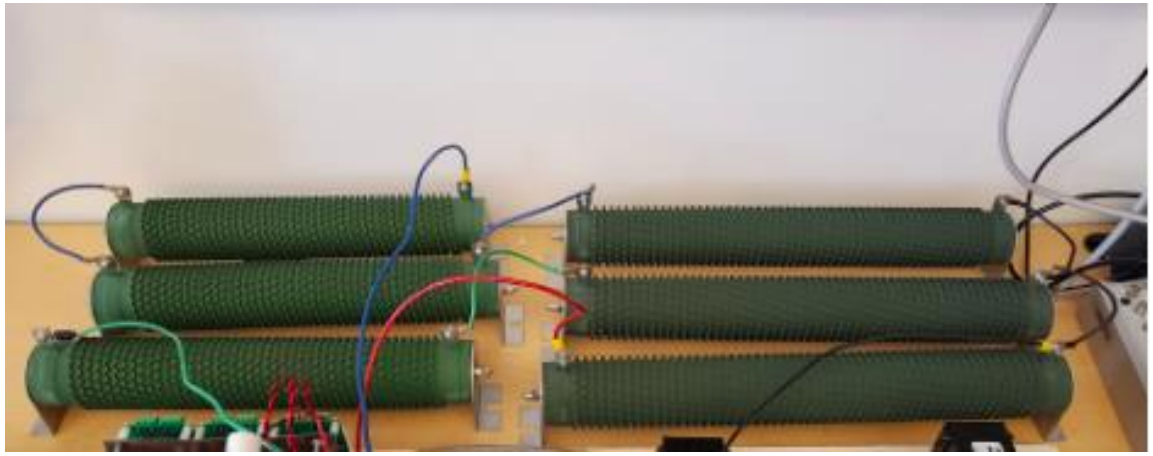


Fig.5 NPC Converter with load.

Fig.6 NPC Converter with Grid.

Timeline and Responsibilities (Abdulelah Alajlan).

Timeline:

Duration	Start	Finish	Predecessors	Assigned To
48d	02/05/20	04/10/20	6	1.3 Experiments
17.25d	02/05/20	02/28/20		1.3.1 Connections
11.75d	02/28/20	03/16/20	12	1.3.2 With Load
7.75d	03/17/20	03/26/20	13	1.3.3 With Grid
7.25d	03/26/20	04/06/20	14	1.3.4 With Turbine
4d	04/07/20	04/10/20	15	1.3.5 Data Acquisition

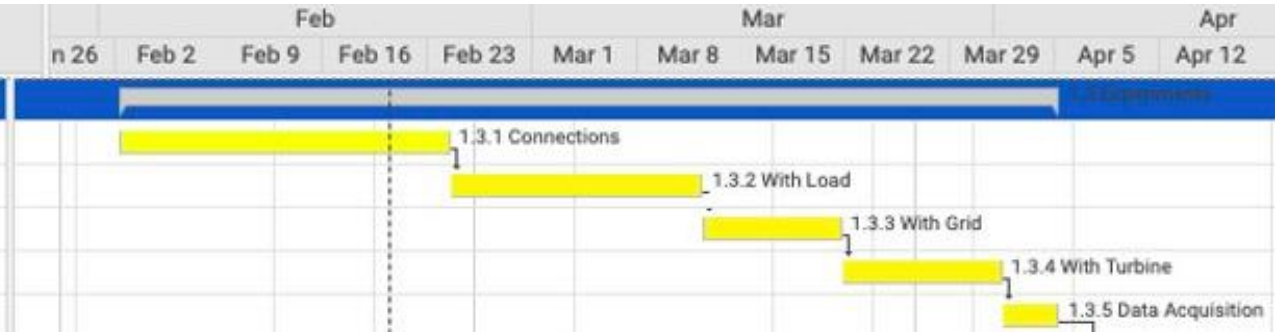


Fig. 10 Timeline Abdulelah Alajlan.

Timeline and Responsibilities (Abdulelah Alajlan).

Responsibilities:

- Parameter NPC Converter via Yaskawa A1000 Drive.
- Data acquisition.

Fig. 7. Parameter Yaskawa A1000 Drive

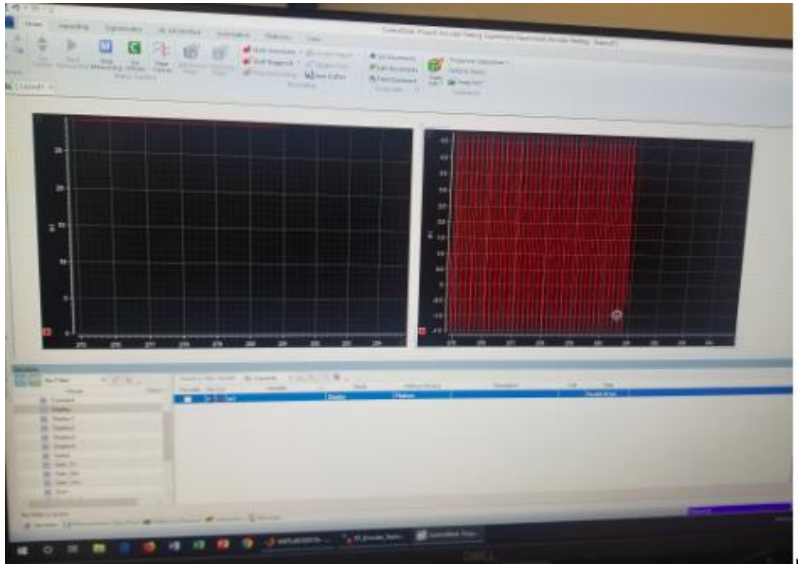
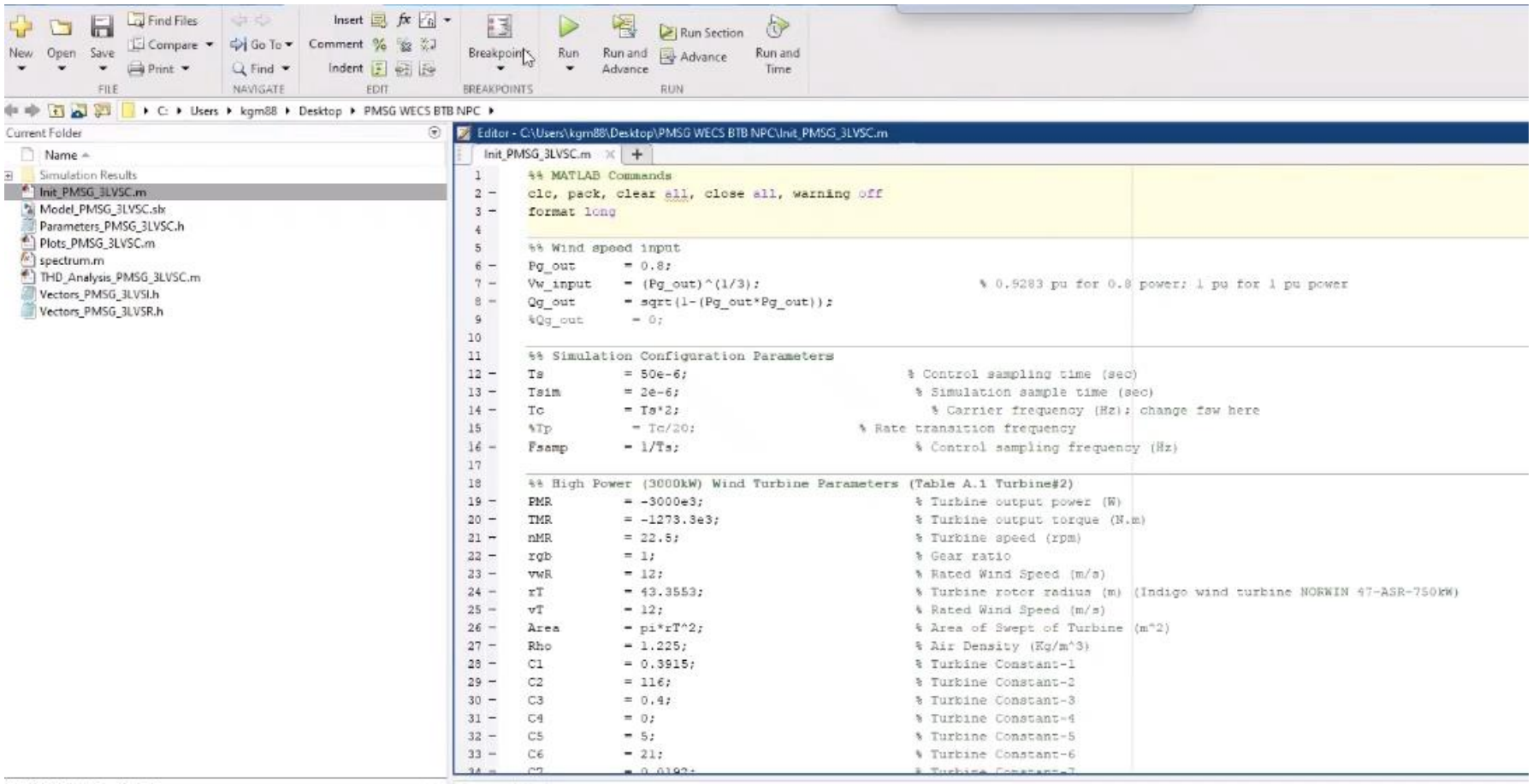


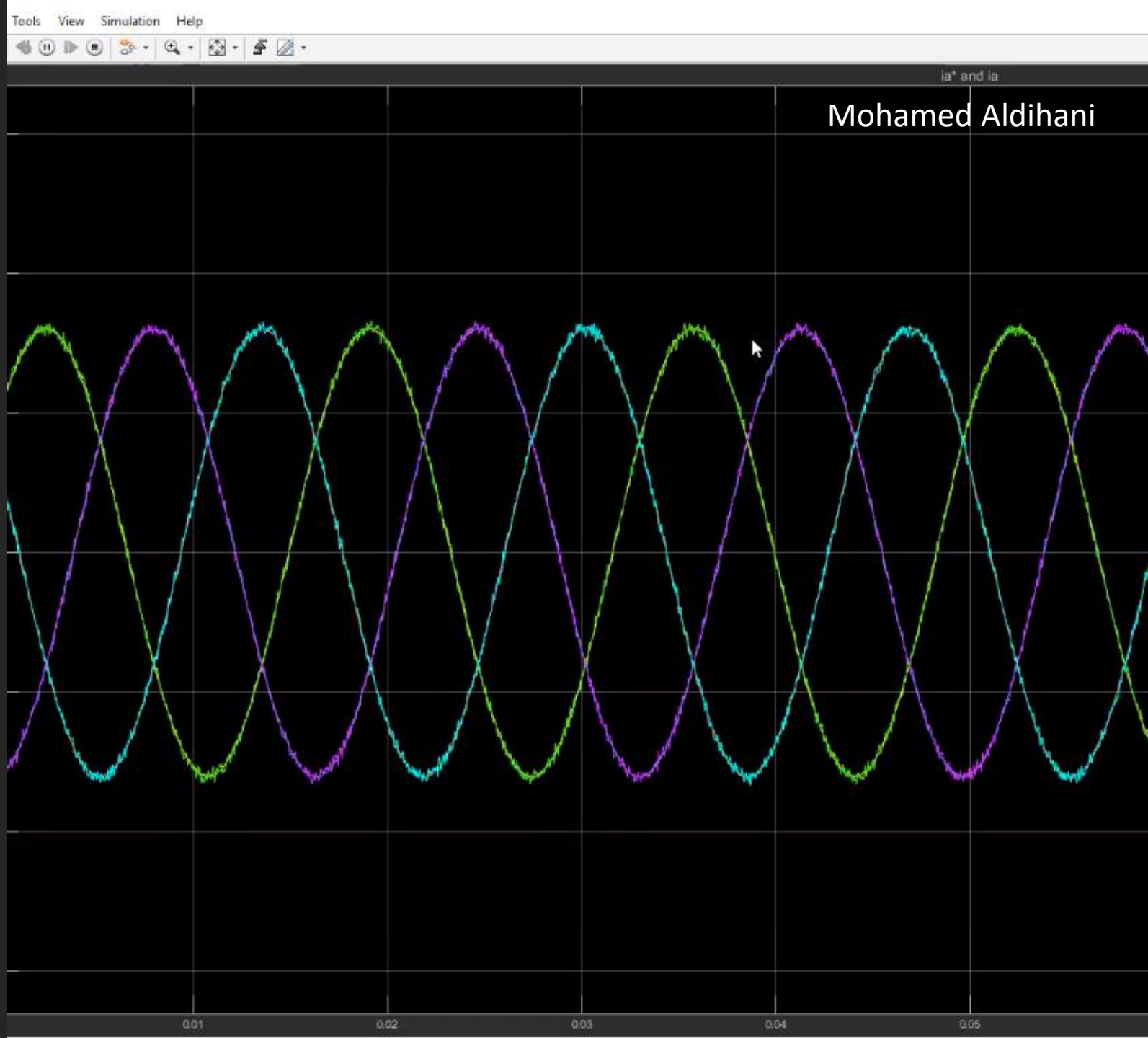
Fig. 8. Input Output NPC converter Data.

Abdulelah Alajlan

Video: Matlab



Matlab: Output NPC Converter for Wind Turbine.



Mohamed Aldihani

Conclusion.

- Intro: Client and Project.
- Work breakdown structure(WBS).
- Timeline and responsibilities of all team.
- The Project Results.