

BATANGAS STATE UNIVERSITY

The National Engineering University

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IV. D-H PARAMETRIC TABLE

The Denavit-Hartenberg parameters (also called D-H parameters) are the four parameters associated with a particular convention for attaching reference frames to the links of a spatial kinematic chain, or robot manipulator.

The Denavit-Hartenberg parameter tables consist of four variables:

- θ (theta) rotation around z_{-1} that is required toget x_{-1} to match x_{-1} , with the joint variable θ if joint is revolute/twisting joint.
- a (alpha) rotation around $x \square$ that is required to match $z \square_{-1}$ to $z \square$.
- d The distance from the origin of n-1 and n frames along the z□-₁ direction, with joint variable if joint is prismatic.
- r The distance from the origin of n-1 and n frames along the $x \square_{-1}$ direction.

The Articulated Manipulator consists of three revolute joints and it can be seen on the three frames of the manipulator from frame 0, frame 1, and frame 2.

n	θ	α	r	d
1	0° + θ ₁	90°	0	a ₁
2	0° + θ ₂	0°	a ₂	0
3	0° + θ₃	0°	a ₃	0

As seen in the table is parametric table of articulated manipulator, each column represents the number of parameters that are needed to complete the table such as parameter theta and alpha which represents the rotation of the manipulator, and the parameter r and d which represents the translation of the manipulator per frame.

Supplementary Video about the D-H Parametric Table of Articulated Manipulator

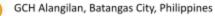
To further understand how to get the D-H Parametric Table, here is a supplementary video explaining how to get it.

(https://drive.google.com/file/d/18cw6NJNt64Ajvra6pkWnRcIHqiqVB5f5/view)











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