

EE568 Project 2: Motor Winding Design & Analysis

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1 Integral-Slot Winding Design

1.1 Winding Diagram

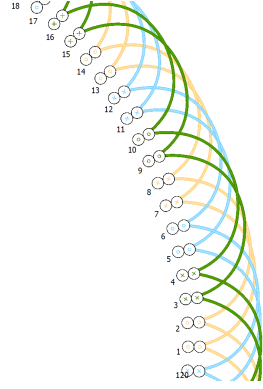


Figure 1: Winding Diagram: 1 pole-
~~1.1.2~~ Distribution, Pitch and Winding Factors

2 Fractional-Slot Winding Design

2.1 27-slot/22-pole EM

2.1.1 Phase Angle of Induced Voltage in each Slot

2.1.2 Phasor Diagram

2.1.3 Distribution, Pitch and Winding Factors

2.1.4 Phase Angle of Induced Voltage in each Slot

2.2 24-slot/22-pole EM

3 2-D FEA Modelling

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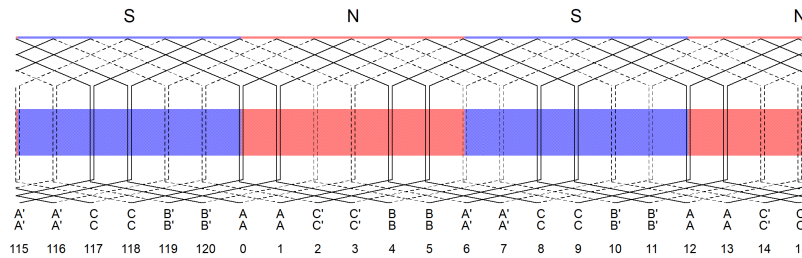


Figure 2: Winding Diagram: 1 pole
pair

References

- [1] D. C. Hanselman, *Brushless Permanent Magnet Motor Design*. 3000 M Henkle Drive, Lebanon, Ohio 45036: Magna Physics Publishing, 2 ed., 2006.