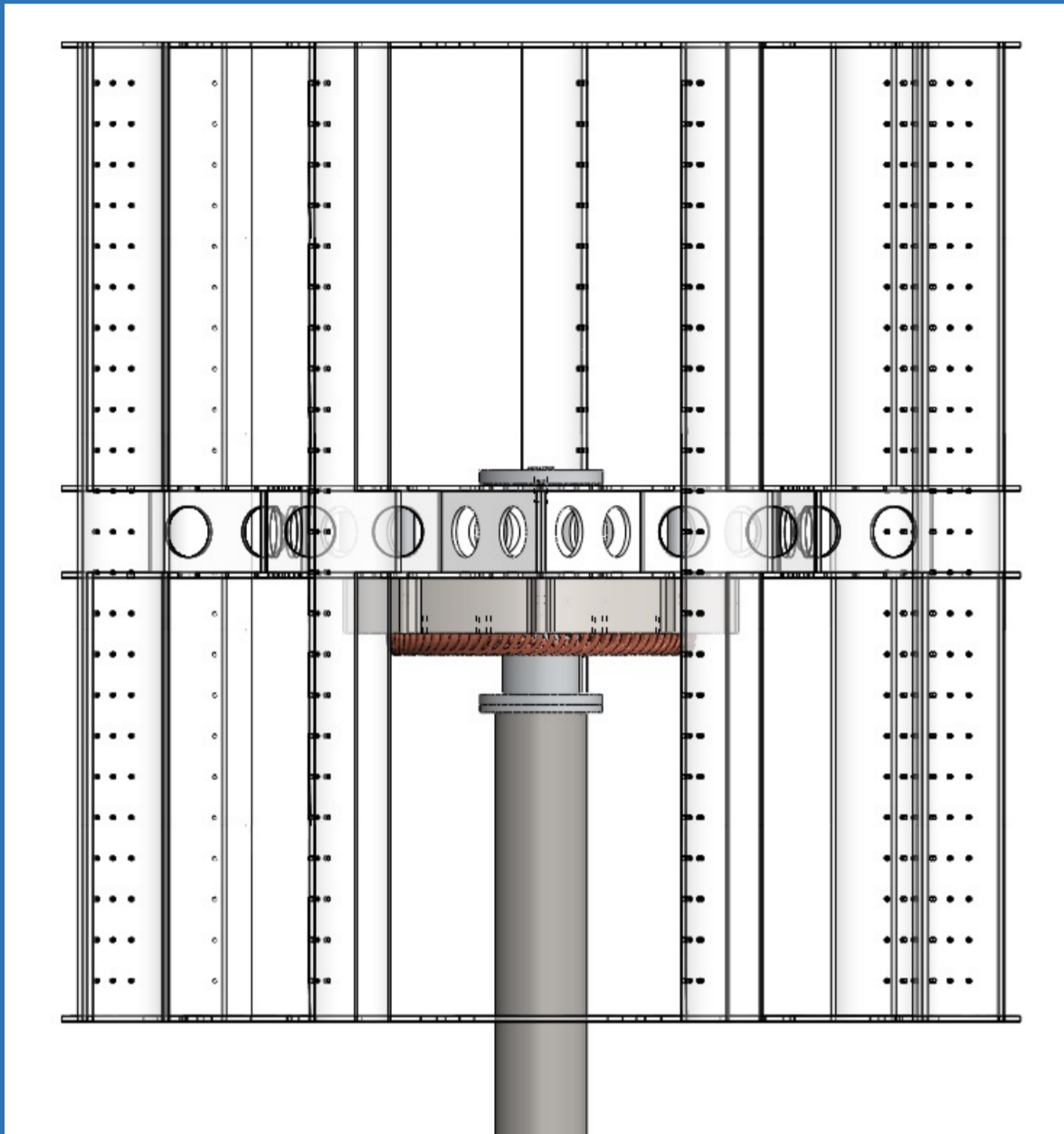
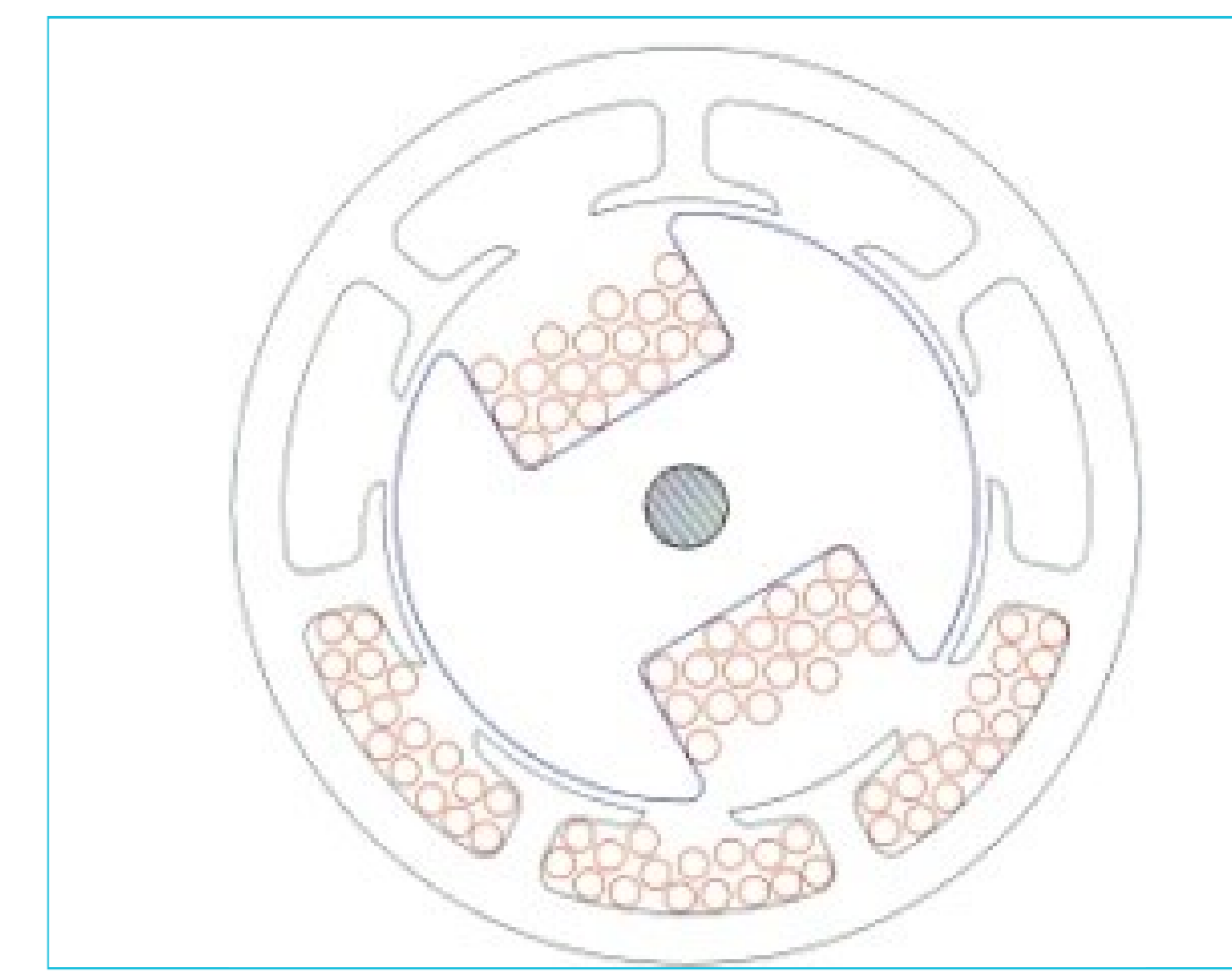




# D.C. Brushless Wind Turbine

D. RICHARD<sup>1</sup>,  
1DDU Magnetics, Inc, Lynwood, Illinois

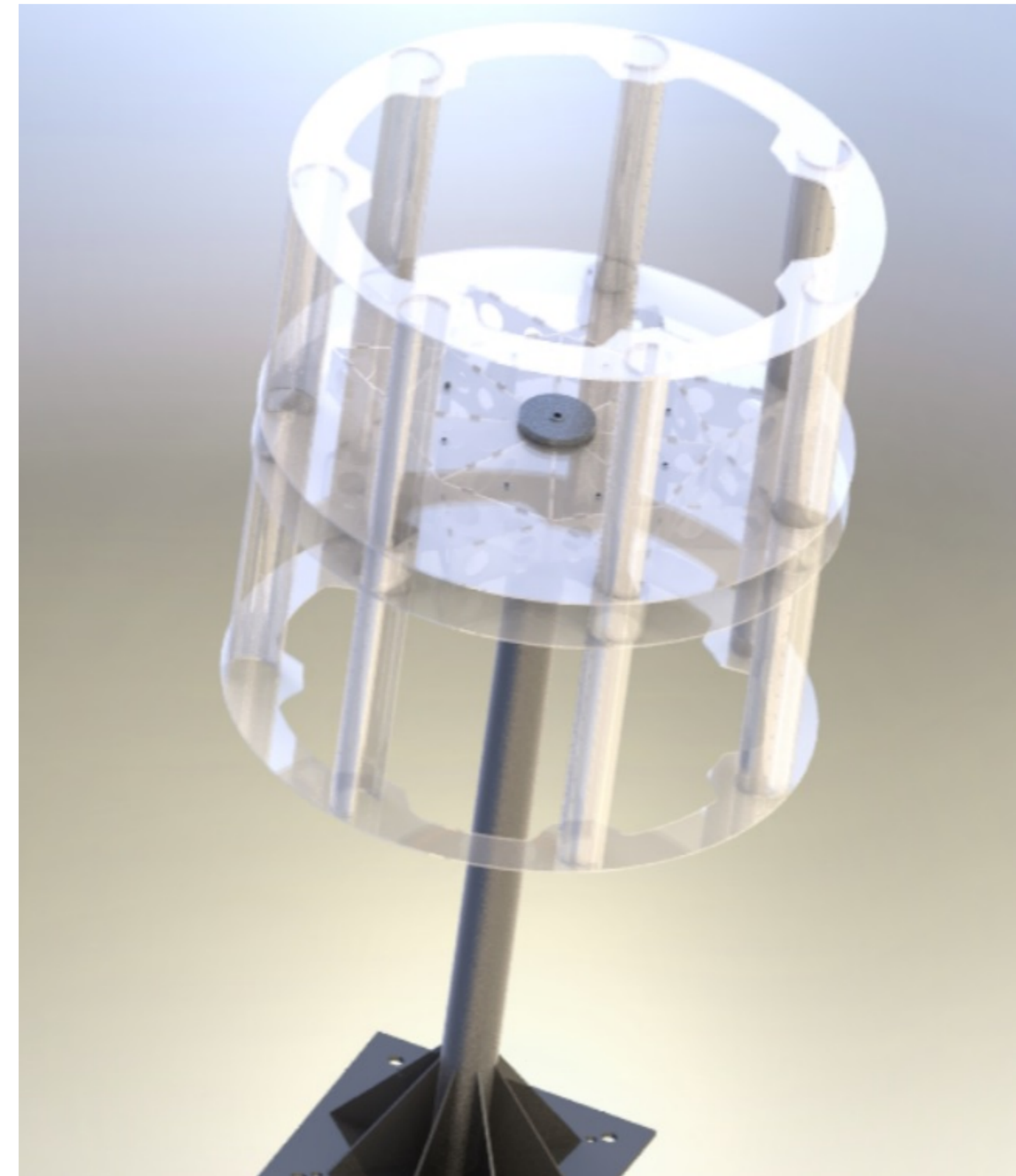


## OBJECTIVE

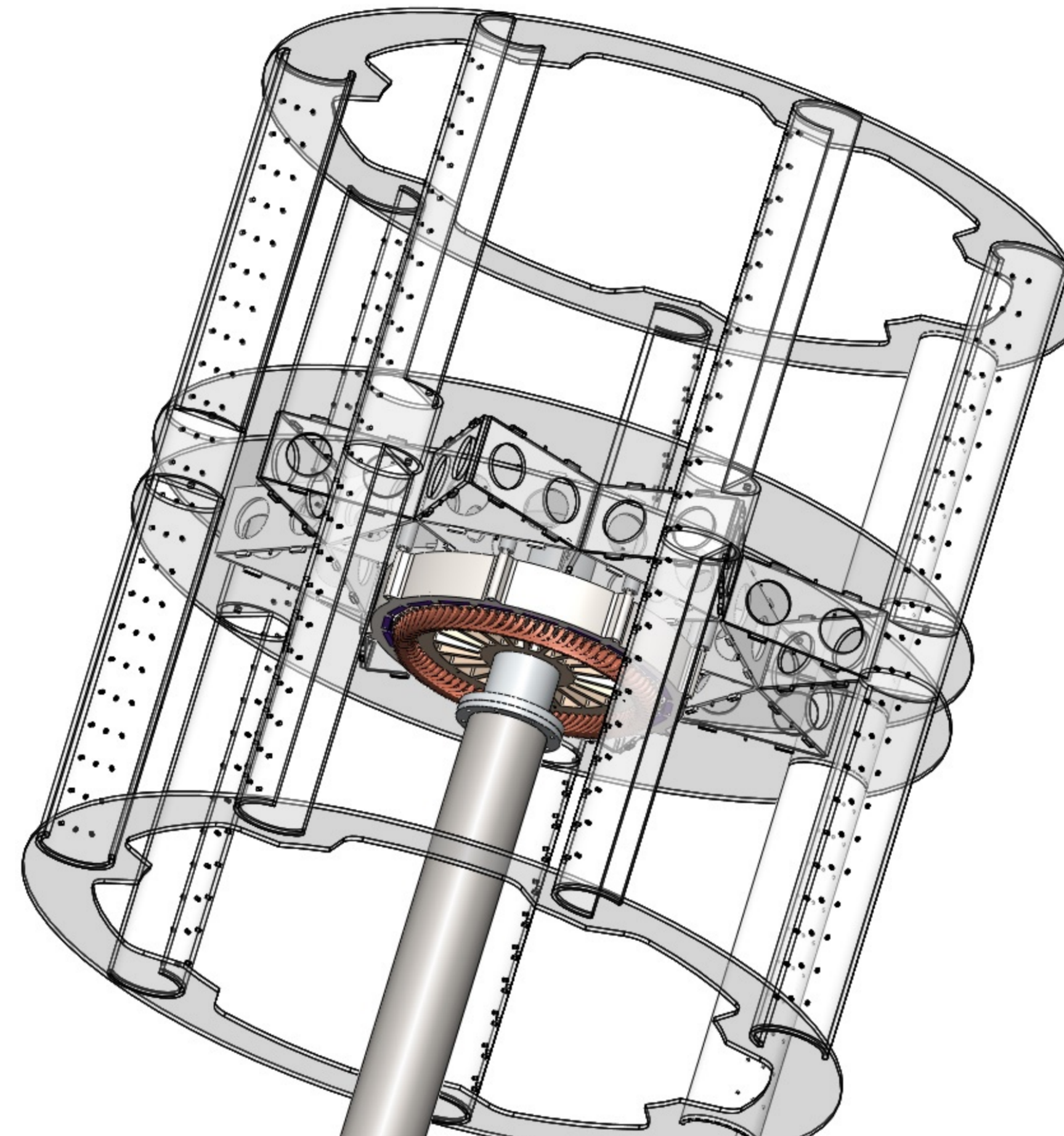
D.C. brushless direct drive wind turbine featuring:

- Cog-less iron core stator
- Sleek design
- Low voltage ripple (harmonic distortion)
- Low cut-in speed
- Noiseless power with near 1.0 crest factor

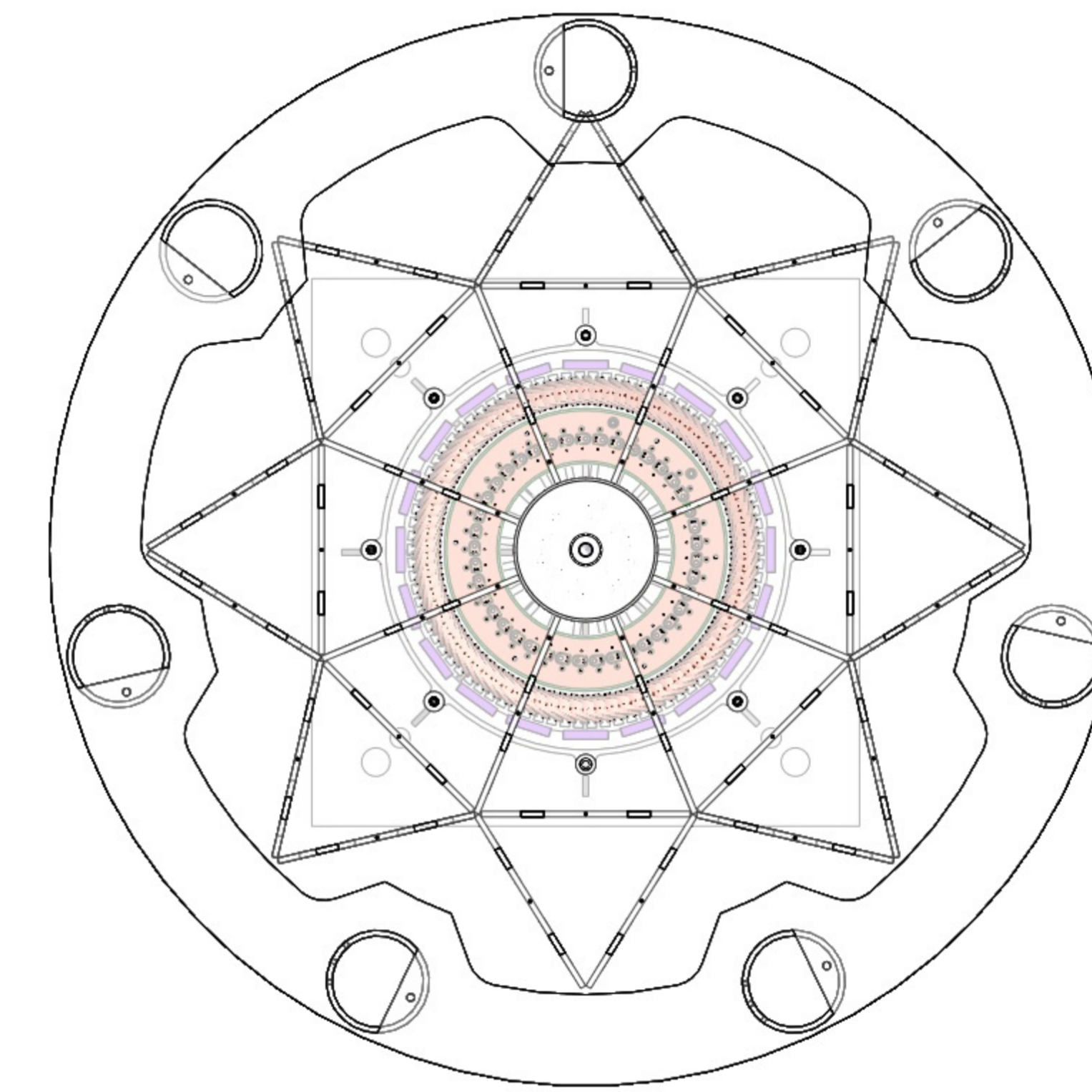
## RESULTS



- Ideal for single family homes
- Businesses
- Farms



- Scalable
- Network friendly
- Easy to assemble



- Rugged
- Efficient
- Novel

## CONCLUSIONS

Clean D.C. power from wind with:

- No harmonic distortion
- Direct drive PM generator
- Unidirectional vertical axis design
- Switch Reluctance design with 'digital' step switching for larger models
- Wide power band with excellent thermal efficiency using unique iron core design.

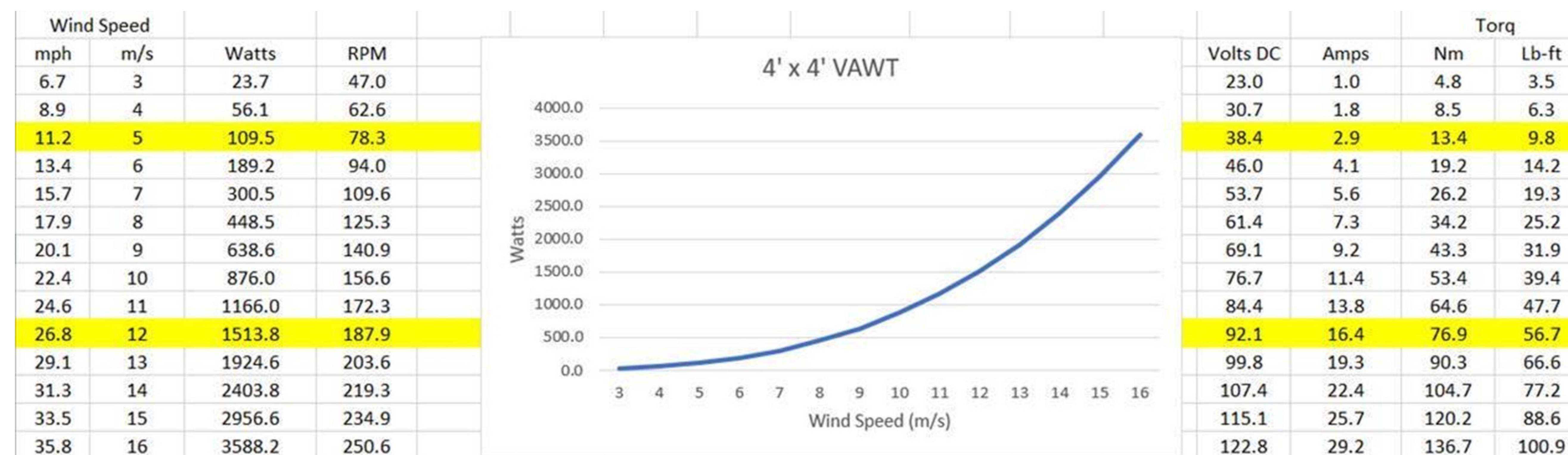
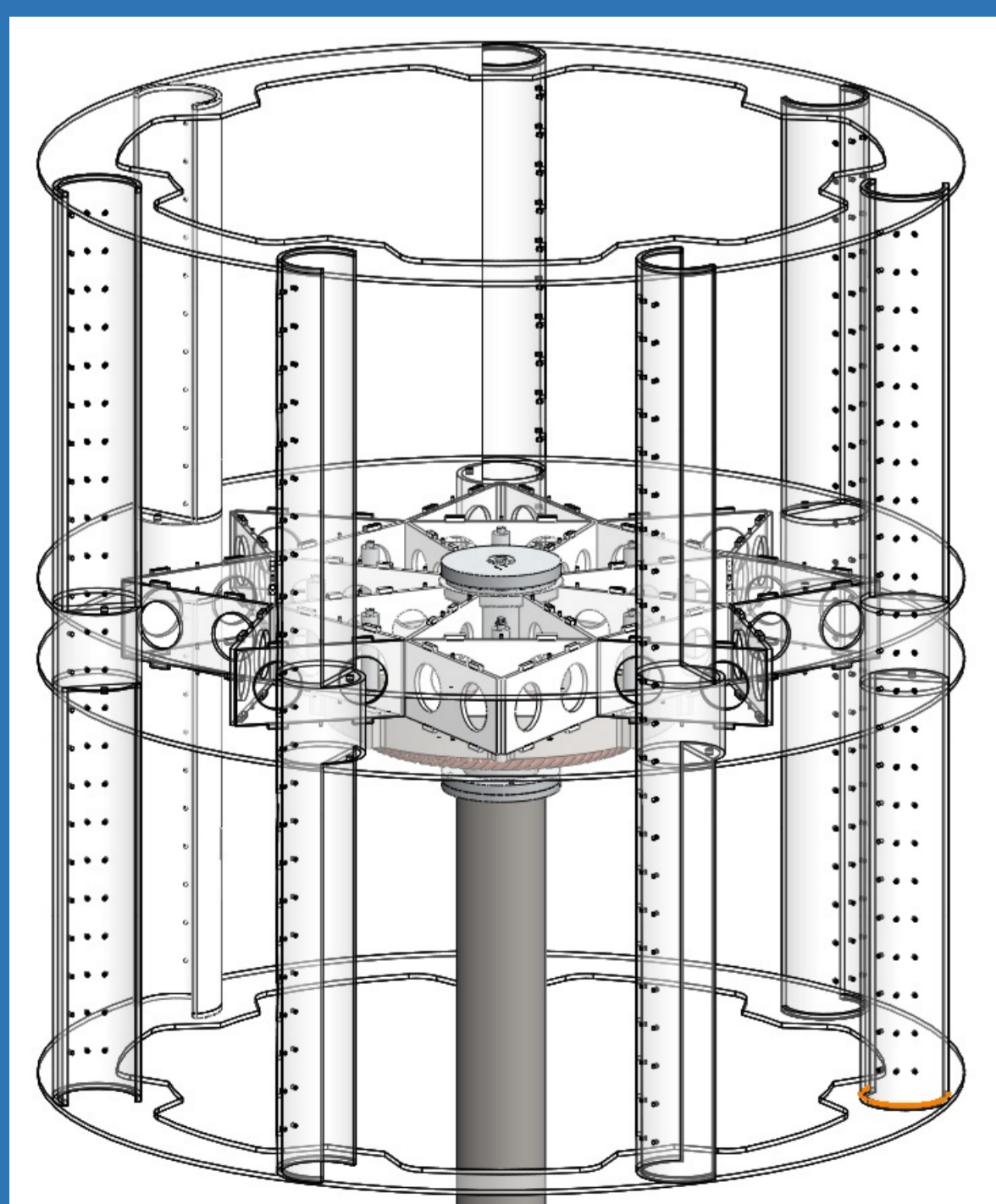
## ACKNOWLEDGEMENTS

Dr. Tan Pham, Altair; Circom Inc.; IMDS; Warfield Electric; Shankar Rao-Magnet Sales; Booker Richard.

## REFERENCES

### BOOST CONVERTER DESIGN FOR 20KW WIND TURBINE GENERATOR

S. Jiao, D. Patterson and S. Camilleri  
NT Center for Energy Research  
Northern Territory University  
Darwin, NT0909



## CONTACT INFORMATION

[drichard@ddumagnetics.com](mailto:drichard@ddumagnetics.com); (708) 325-6587