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Editor of Mathematics

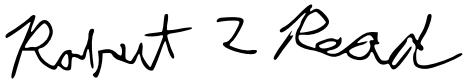
Dear Editor of Mathematics:

Please consider this article, “Calculating the Segmented Helix Formed by Repetitions of Identical Subunits thereby Generating a Zoo of Platonic Helices“ for publication.

It significantly generalizes and indeed subsumes a recent publication in Mathematics, “Periodic modification of the boerdijk–coxeter helix (tetrahelix)” by Garrett Sadler, Fang Fang, Richard Clawson, and Klee Irwin. Mathematics, 7(10):1001, 2019.

This is in fact a work of solid geometry, which is not the most fashionable, abstract, or difficult mathematical field. Nonetheless, the results proved here and backed by direct closed-form calculations and algorithms based on them appear to be novel and interesting. A very abbreviated 8-page version of some of this work was well-received at the 2nd IMA Conference on Mathematics and Robotics and the work appears to have some relevance to chemistry, even though it is in fact pure geometry. It suggests an approach to discovering close-form expressions for all 28 uniquely shaped Platonic helices, apparently enumerated here for the first time, which it catalogs and describes numerically.

Sincerely,



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