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Zirui Xu* (zx2250@columbia.edu) and **Qiang Du** (qd2125@columbia.edu). *On the Ternary Ohta–Kawasaki Free Energy and Its One Dimensional Global Minimizers.*

We study the ternary Ohta–Kawasaki free energy that has been used to model triblock copolymer systems. In the literature there are different choices of the long range coefficient matrix. Using a charge interpretation, we discuss what conditions the matrix should satisfy in order to reproduce the nanostructures of block copolymers. We compare the free energy of several lamellar candidates and present the results in phase diagrams. Our results suggest that even in one dimension, the ternary Ohta–Kawasaki free energy possesses many possible global minimizers under different parameters. (Received September 21, 2021)