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Writing and representation in liquid crystal physics research CHAD WICKMAN, CHRISTINA HAAS, Kent State University, PETER PALFFY-MUHORAY, Liquid Crystal Institute, KSU — Public understanding of science is often shaped by semiotic systems—linguistic, mathematic, graphic, pictorial—deployed in the textual presentation of scientific findings. Nowhere is this more apparent, perhaps, than in recent debates over climate change where non-linguistic communication has played an integral role in shaping policy decisions. This is one example of many, but it speaks to the need for research that examines how working scientists disseminate knowledge to expert and non-expert alike. Based on the study of text production in liquid crystal physics research, I will discuss the way in which physicists utilize multiple semiotic systems in their research and publications. Findings suggest that shared meanings are often created through a variety of semiotic forms—from linguistic script to equations to graphs to diagrams—and that these forms offer specific meaning potentials for communicating knowledge to different audiences. Ultimately, I argue that an improved understanding of scientific literacy practices is key to the effective communication of science to various constituencies.

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