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**Blake Mellor\*** ([blake.mellor@lmu.edu](mailto:blake.mellor@lmu.edu)). *Finite  $N$ -quandles of spatial graphs*. Preliminary report.

An  $N$ -quandle of a link or spatial graph is a quotient of the fundamental quandle. If a spatial graph has  $k$  edges, and given a  $k$ -tuple  $N = (n_1, \dots, n_k)$  of positive integers, we define the  $N$ -quandle by adding relations  $x^{y^{n_i}} = x$  to the full quandle whenever  $y$  is an arc of edge  $i$ . The  $n$ -quandle (introduced for knots by Joyce) is the case when  $n_i = n$  for every  $i$ . Hoste and Shanahan provided a complete list of links where the  $n$ -quandle is finite, proving a conjecture of Przytycki. We extend the conjecture to  $N$ -quandles of links and spatial graphs, and provide evidence for the extended conjecture by computing finite  $N$ -quandles associated to a number of links and spatial graphs. We also consider a possible counterexample to the conjecture for spatial graphs. (Received August 12, 2021)