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Amelia Drew: Axion String Source Modelling

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Axion strings are topological defects that arise in particle physics models with a spontaneously broken global U(1) symmetry, motivated, for example, by the Peccei-Quinn mechanism. They are predicted to emit massless axions, massive particles and gravitational waves. If we are to detect axion dark matter in the post-inflationary symmetry breaking scenario, understanding the spectrum of the axions emitted from a network of strings will be crucial. I will detail my work modelling the dependence of axion string radiation on the string curvature using adaptive mesh refinement simulations, reconciling with Nambu-Goto effective action predictions.