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Topological superconductivity and high Chern numbers in ferromagnetic Shiba lattices<sup>1</sup> TEEMU OJANEN, JOEL RONTYNEN, ALEX WEST-STROM, KIM POYHONEN, School of Science, Aalto University, O. V. LOUNAS-MAA LABORATORY TEAM — Topological superconductivity was recently observed in a system consisting of a 1D magnetic adatoms on top of a superconducting surface. Anticipating further developments, we show that a 2D array of magnetic atoms support a variant of  $p_x + ip_y$  superconductivity and exhibit very complex phase diagram with high Chern numbers. We also present a detailed study of Majorana bound states in 1D chains.

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