▶ DENYS DUCHIER, JRME DURAND-LOSE, MAXIME SENOT, *Solving Q-SAT in bounded space and time by geometrical computation.*
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Abstract geometrical computation can solve PSPACE-complete problems efficiently: any quantified boolean formula, instance of Q-SAT — the problem of satisfiability of quantified boolean formula — can be decided in bounded space and time with simple geometrical constructions involving only drawing parallel lines on an Euclidean space-time. Complexity as the maximal length of a sequence of consecutive segments is quadratic. We use the continuity of the real line to cover all the possible boolean valuations by a recursive tree structure relying on a fractal pattern: an exponential number of cases are explored simultaneously by a massive parallelism.