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Random walks on Arakelov class groups

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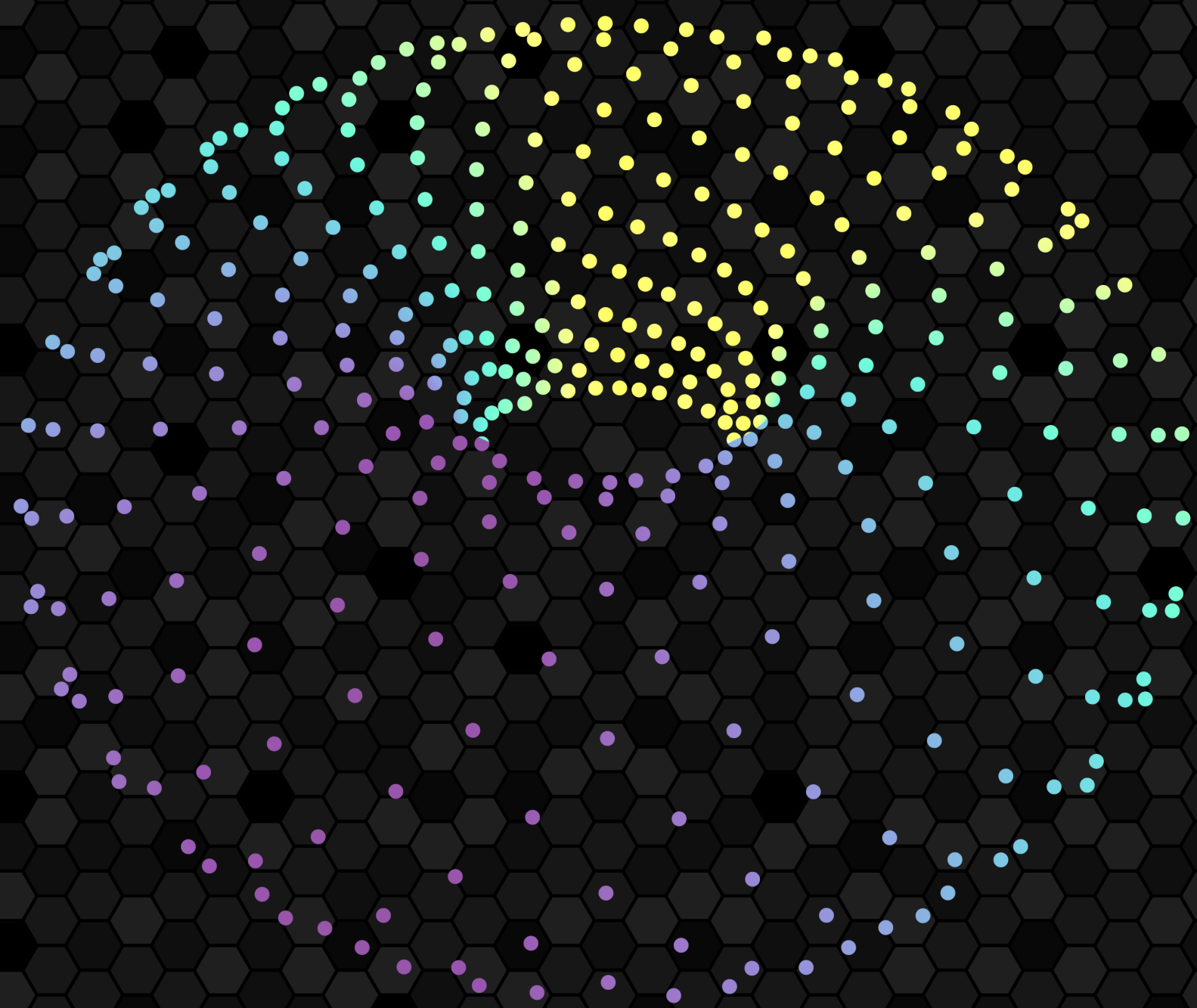
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RANDOM WALKS ON ARAKELOV CLASS GROUPS

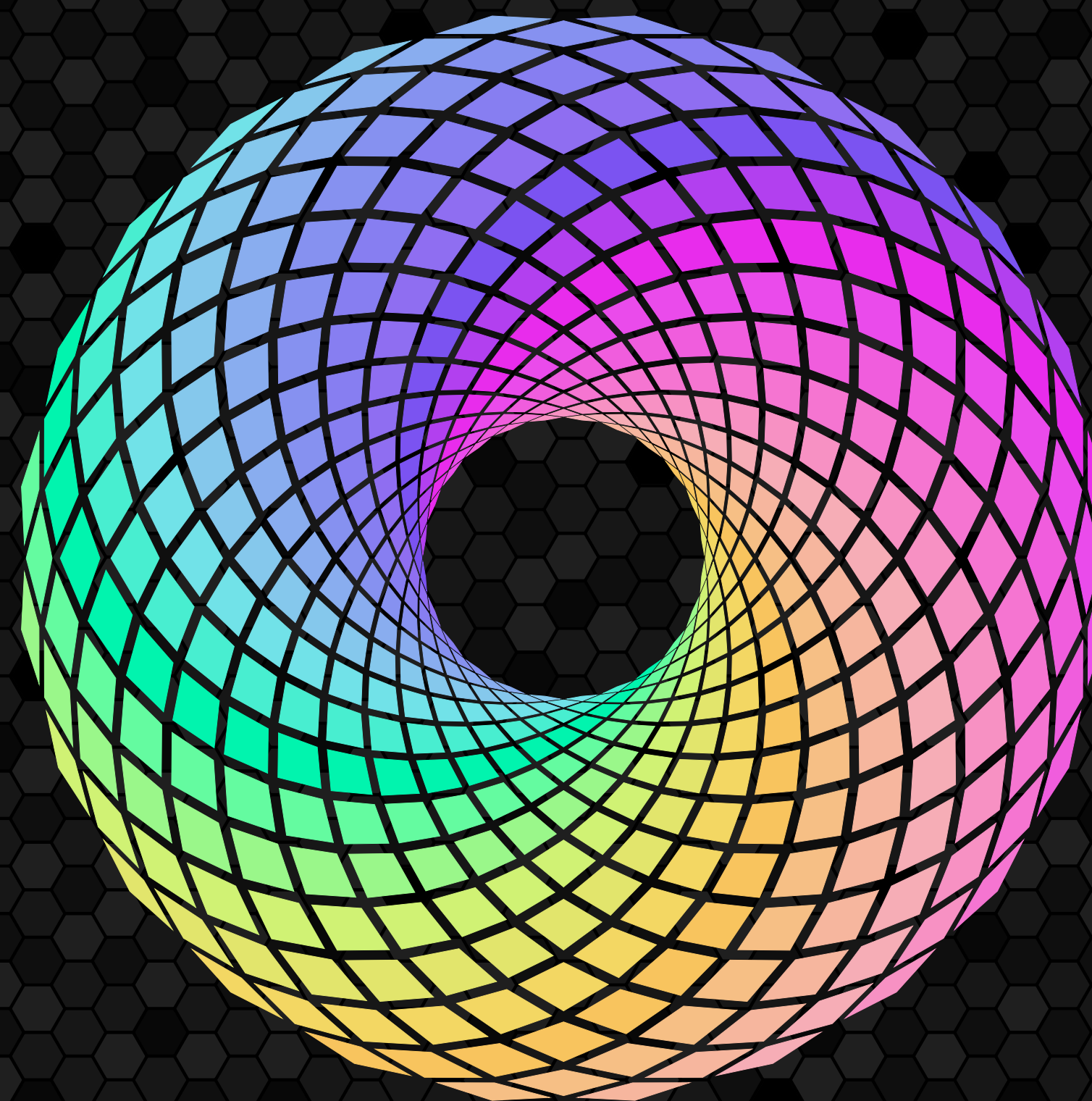
The main topic of this PhD thesis is the *Arakelov ray class group* of a number field, an algebraic object that contains both the ideal class group structure and the unit group structure. The main result consists of the fact that certain specific *random walks* on the Arakelov ray class group result in a target point that is uniformly distributed on this group, under the assumption of an extended version of the Riemann Hypothesis. Almost all other results of this work are consequences of this fact.



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