

# Arithmetic Kontsevich-Zorich monodromies of origamis and modular groups of infinite type surfaces

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# Sarnak question

"How often are Kontsevich-Zorich monodromies arithmetic/thin?"

## Theorem 1

There exist 8 infinite families of origamis of genus 3 with arithmetic Kontsevich-Zorich monodromies.

## Theorem 2

There exist at least finitely many genus 4 origamis with arithmetic Kontsevich-Zorich monodromies.

Joint work with Bonnafoux E., Kanny M., Kutler P., Matheus C., Sedano M, Valdez F. and Weitze-Schmithüsen G.

arXiv:2206.06595

# Modular groups of infinite type surfaces

"How does  $Mod(R)$  sit in  $Map(S)$ "? (Chandran-Patel-Vlamis)

## Theorem 3

For  $S$  an infinite type surface without boundary and finite genus, there exist a Riemann surface structure  $R$  on  $S$  such that  $Mod(R)$  is countable.

arXiv:2310.12388