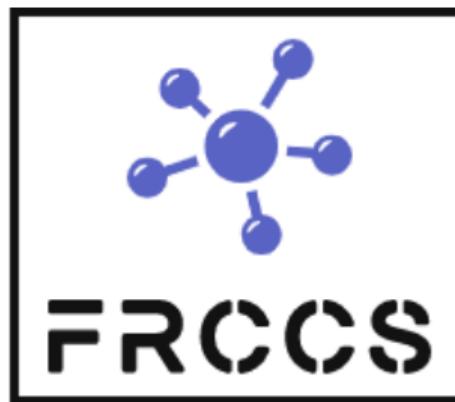
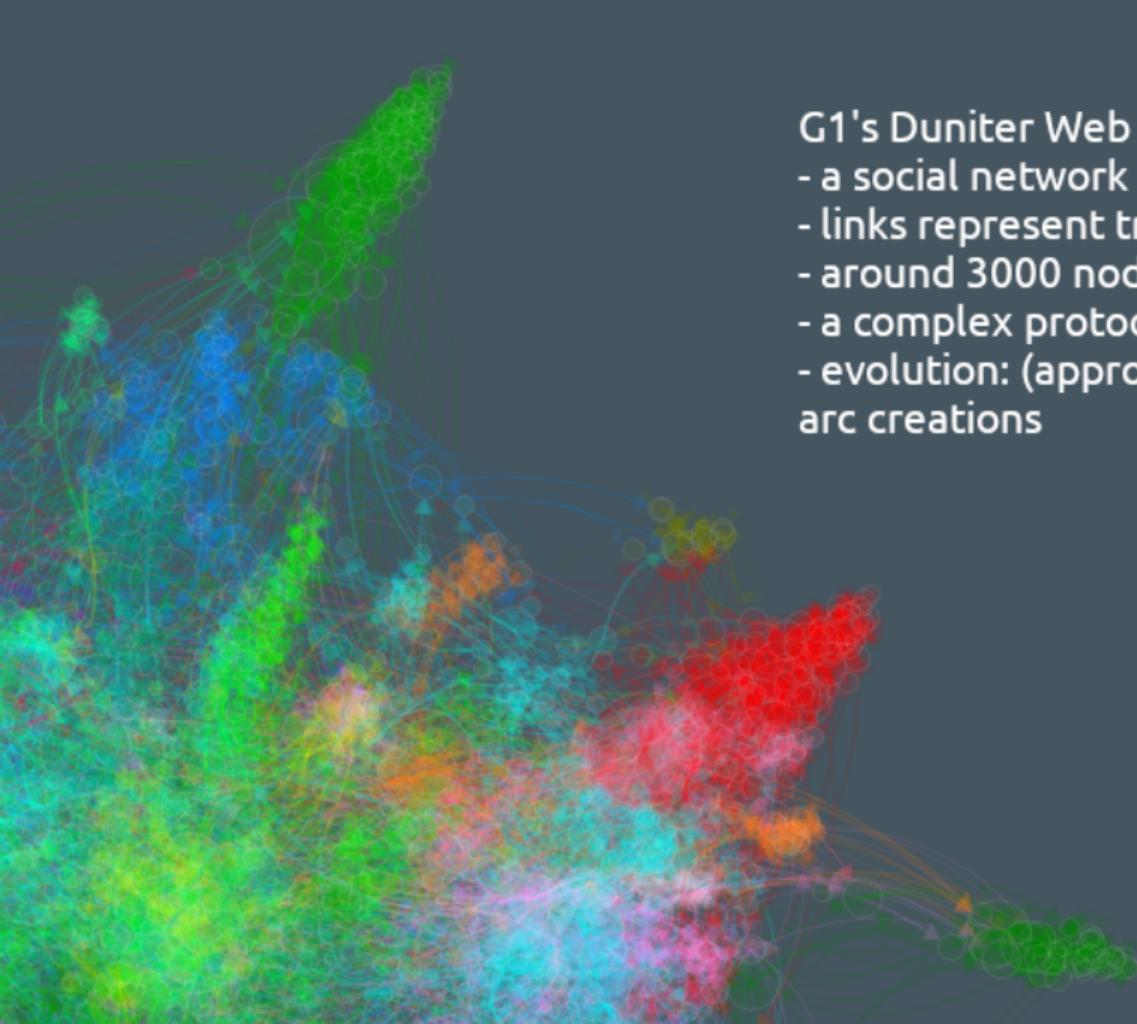


# Analysis of the Sybil defense of Duniter-based cryptocurrencies

Lucas Isenmann

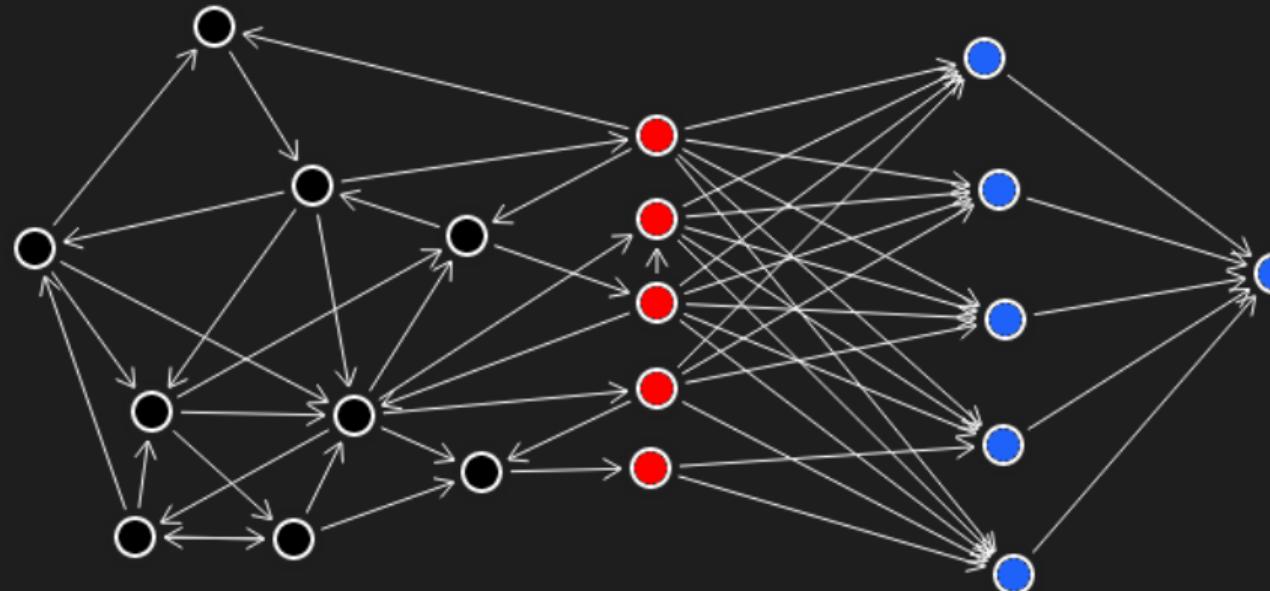
Université de Montpellier, LIRMM



A complex network graph visualization on a dark background. The graph consists of numerous small, semi-transparent nodes of various colors (green, blue, red, yellow, orange) and many thin, curved arrows representing directed edges. Some nodes are grouped together in larger clusters, while others are more isolated. The overall structure is organic and interconnected.

## G1's Duniter Web of Trust in 2021:

- a social network
- links represent trust
- around 3000 nodes
- a complex protocol
- evolution: (approximately) 2 rules about node and arc creations

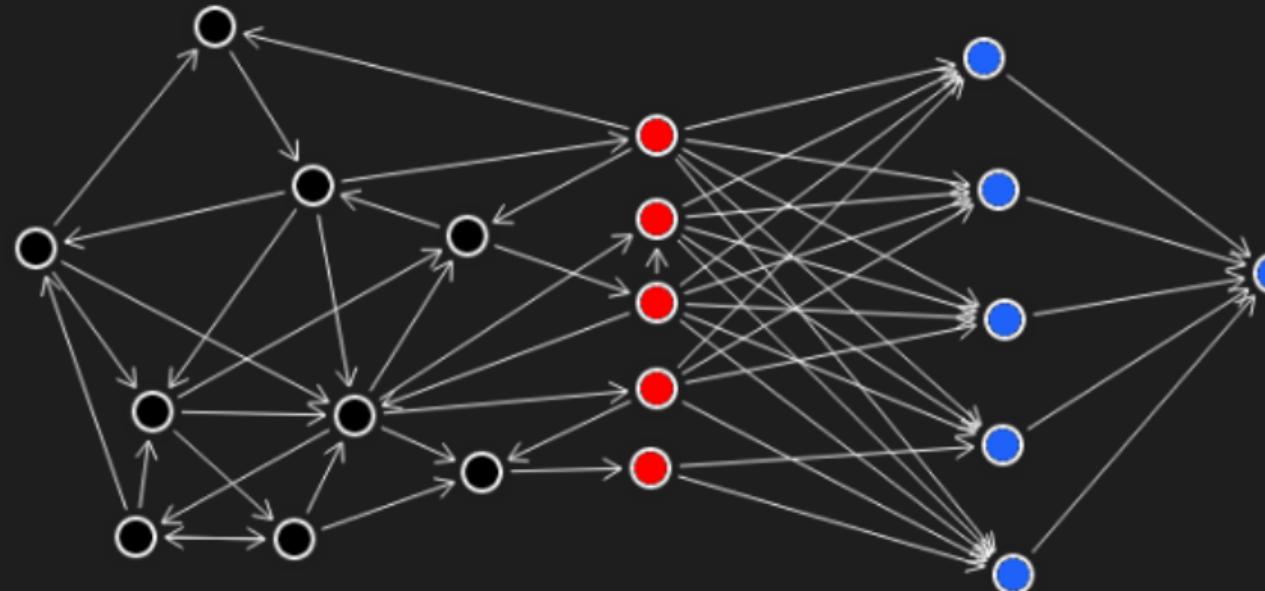


honests

attackers

fake

$$attack(A) \leq c(A) \frac{(\Delta - \delta + 1)^k - 1}{\Delta - \delta}$$



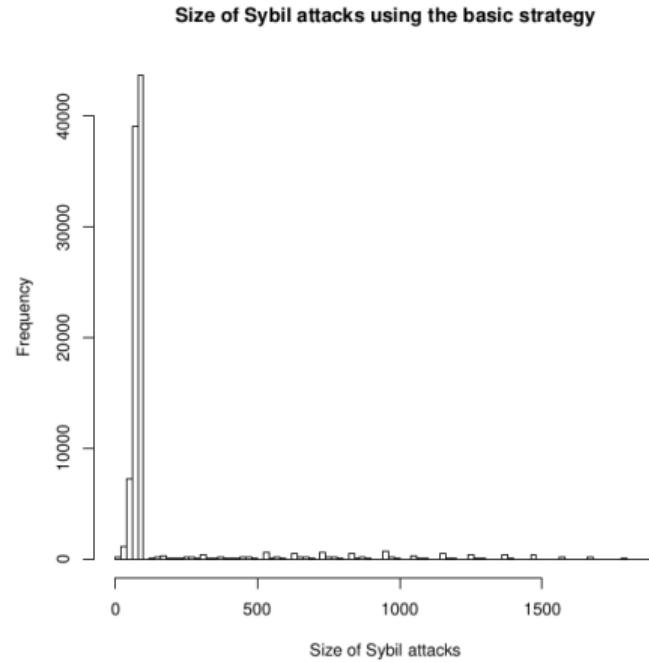
honests

attackers

fake

# Conclusions

- in theory Sybil attacks are limited but can be huge
- in practice, Sybil attacks are not so huge



# Openings

- time and social constraints also limit Sybil attacks
- consider more clever Sybil attack strategies
- precision of the simplification?