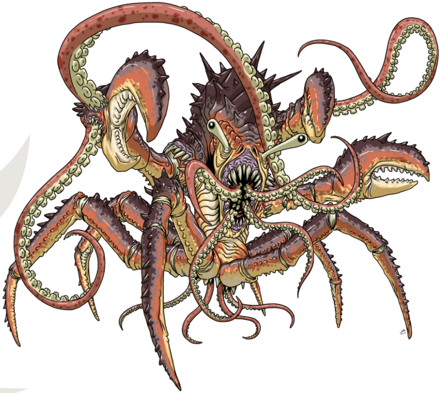
10 September 2018

PQCzoo: Post-Quantum Beasts and Where to Find Them

James Howe, Marco Martinoli



- On which embedded device does Frodo fit?

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- Can you fault Dilithium?

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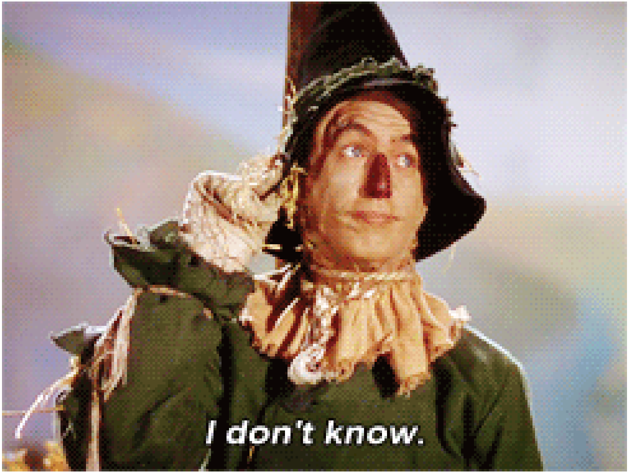
- Does NewHope suffer cold (boot attacks)?

- On which embedded device does Frodo fit?
- Can you fault Dilithium?
- Does NewHope suffer cold (boot attacks)?
- Does a hardware design of a code-based scheme exist?

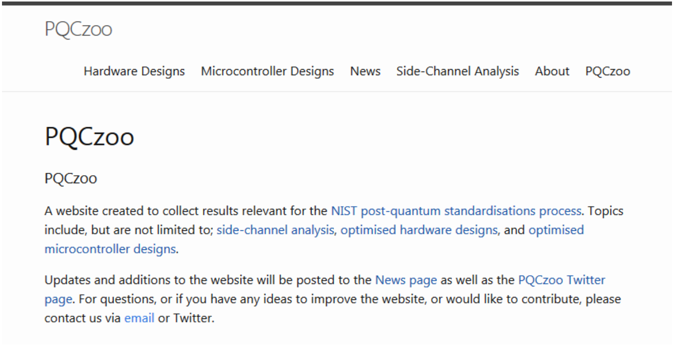
OPPA

GOPPA

CODES


I don't know.

Introducing: PQCzoo!



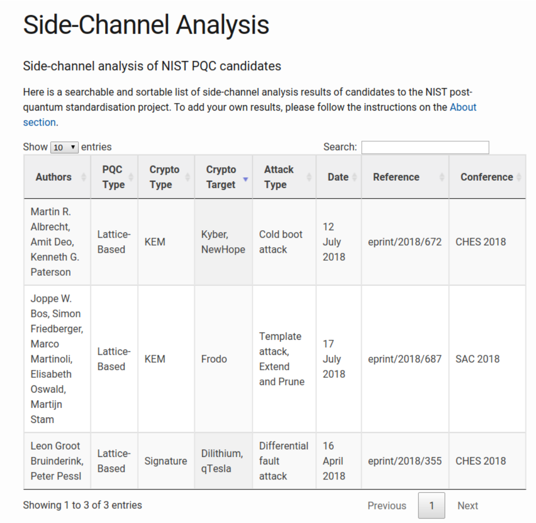
PQCzoo

PQCzoo

A website created to collect results relevant for the NIST post-quantum standardisations process. Topics include, but are not limited to; side-channel analysis, optimised hardware designs, and optimised microcontroller designs.

Updates and additions to the website will be posted to the News page as well as the PQCzoo Twitter page. For questions, or if you have any ideas to improve the website, or would like to contribute, please contact us via email or Twitter.

Introducing: PQCzoo!



Side-Channel Analysis

Side-channel analysis of NIST PQC candidates

Here is a searchable and sortable list of side-channel analysis results of candidates to the NIST post-quantum standardisation project. To add your own results, please follow the instructions on the About section.

Authors	PQC Type	Crypto Type	Crypto Target	Attack Type	Date	Reference	Conference
Martin R. Albrecht, Amit Deo, Kenneth G. Paterson	Lattice-Based	KEM	Kyber, NewHope	Cold boot attack	12 July 2018	eprint/2018/672	CHES 2018
Joppe W. Bos, Simon Friedberger, Marco Martinoli, Elisabeth Oswald, Martijn Stam	Lattice-Based	KEM	Frodo	Template attack, Extend and Prune	17 July 2018	eprint/2018/687	SAC 2018
Leon Groot Bruinderink, Peter Pessl	Lattice-Based	Signature	Dilithium, qTesla	Differential fault attack	16 April 2018	eprint/2018/355	CHES 2018

Showing 1 to 3 of 3 entries

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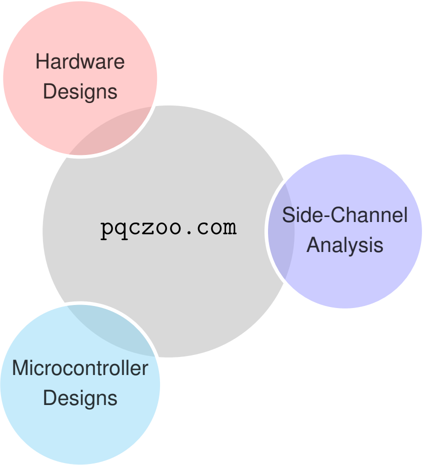
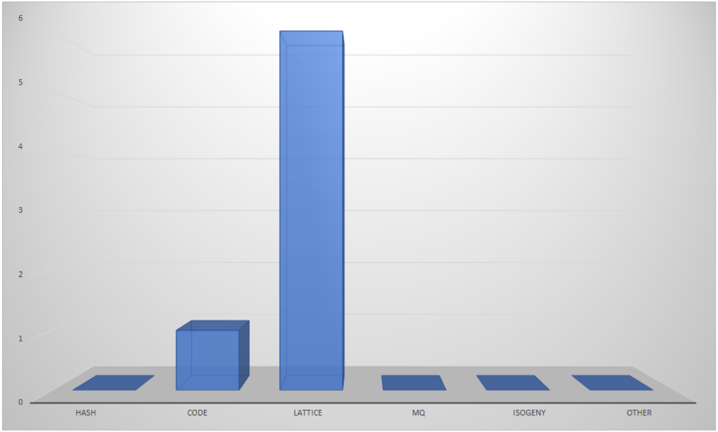
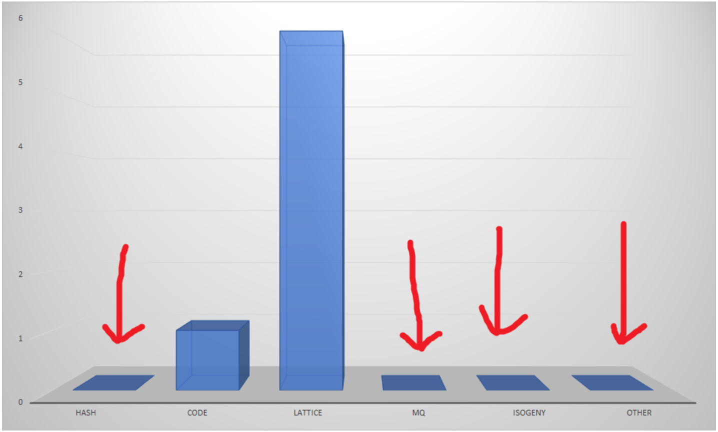


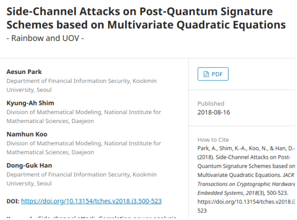
Represented Classes



(Under)Represented Classes



Awaiting submissions...



Side-Channel Attacks on Post-Quantum Signature Schemes based on Multivariate Quadratic Equations

- Rainbow and UOV -

Aesun Park
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DOI: https://doi.org/10.13154/tches.v2018.i3.500-523

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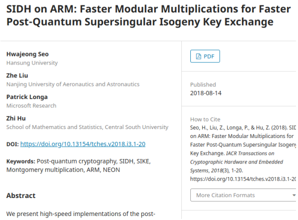
How to Cite
Park, A., Shim, K.-A., Koo, N., & Han, D.-(2018). Side-Channel Attacks on Post-Quantum Signature Schemes based on Multivariate Quadratic Equations. *IACR Transactions on Cryptographic Hardware Embedded Systems, 2018*(3), 500-523. https://doi.org/10.13154/tches.v2018.i3-523



SIDH on ARM: Faster Modular Multiplications for Faster Post-Quantum Supersingular Isogeny Key Exchange

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Zhe Liu
Nanjing University of Aeronautics and Astronautics

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Microsoft Research

Zhi Hu
School of Mathematics and Statistics, Central South University

DOI: https://doi.org/10.13154/tches.v2018.i3.1-20

Keywords: Post-quantum cryptography, SIDH, SIKE, Montgomery multiplication, ARM, NEON

Abstract

We present high-speed implementations of the post-

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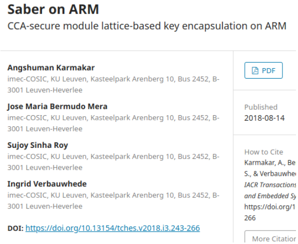

Saber on ARM

CCA-secure module lattice-based key encapsulation on ARM

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DOI: https://doi.org/10.13154/tches.v2018.i3.243-266

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2018-08-14

How to Cite
Karmakar, A., Be S., & Verbauwhe *IACR Transactions and Embedded Sy* https://doi.org/1 266

Cool! How do I submit my paper?

- You need a GitHub account.
- Access PQCzoo's Git: `github.com/pqczoo/pqczoo.github.io`.
- Add an entry with your paper to the appropriate table (HW, SW, or SCA).
- Send a pull request and wait, the paper will be on soon! :)

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Instructions on this are on the website's About section (`pqczoo.com/about`).
Otherwise, send me an email or catch me at the conference!