

Design and Implementation of an Authenticated Post-Quantum Key Exchange Protocol

*An Adaptation of the Encrypted Key Exchange Protocol using
CRYSTALS-Kyber*

Master's degree in Telecommunications and Informatics Engineering

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1 Introduction

Write about the MOTIVATION: the current threat of quantum computers to classical cryptography, the need for post-quantum cryptography, etc.

Problem Statement: Why classical key exchange neeed to evolve

Objectives: Design and implement an authenticated post-quantum key exchange protocol based on EKE and CRYSTALS-Kyber

2 State of the Art

2.1 Encrypted Key Exchange (EKE)

2.2 Post-Quantum cryptography (PQC)

2.3 CRYSTALS-Kyber

3 Proposed Design: PQ-EKE with Kyber

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