./examples/main_note.md

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Abstract

This is a simple example to showcase the Obsidian to LaTeX converter.

1 Introduction

This document demonstrates the conversion of Markdown notes to a LaTeX document, including internal links and embedded content.

Figure 1: This is the caption

2 Results

$$\|\hat{x} - x_0\|_2 \leq \|x^{\perp}\|_2 + 3\|\tilde{F}x^{\perp}\|_2 + 3\|\eta\|_2 + \frac{3}{2}\hat{\varepsilon}.$$

Here is some $\sum a_i$.

$$\sum_{i=1}^{k} A_i$$

$$\sum_{i=1}^{n} A_3$$

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We present the following lemma:

Lemma 2.1 (lemma$_1$). *Every even integer greater than 2 can be expressed as the sum of two prime numbers.*

The main theorem is:

Theorem 2.2 (theorem$_1$). *For every positive integer n , the sum of the first n odd integers is equal to n^2 .*

3 Proofs

Here is the proof for the main theorem. The proof is specifically for **??**. I may or may not follow from [**rudelsonSparseReconstructionFourier2008**].

Proof of **??**. We proceed by induction.

Base case ($n = 1$): The sum of the first odd integer (1) is equal to 1^2 , which is true.

Inductive step: Assume that the sum of the first k odd integers is equal to k^2 . We want to show that the sum of the first $k + 1$ odd integers is equal to $(k + 1)^2$.

The sum of the first k odd integers is k^2 . The next odd integer is $(2k + 1)$. Therefore, the

□