# Exploring Quantum Tunnelling in NH<sub>3</sub>

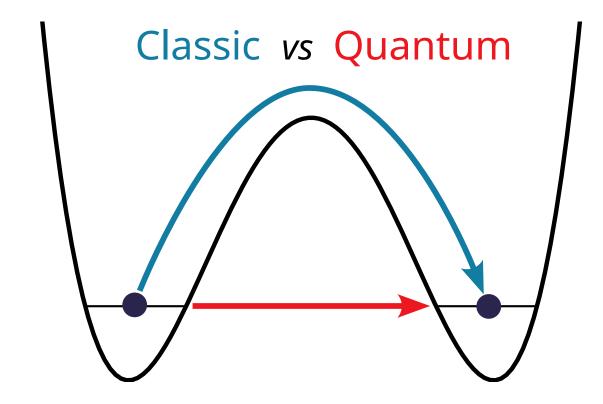
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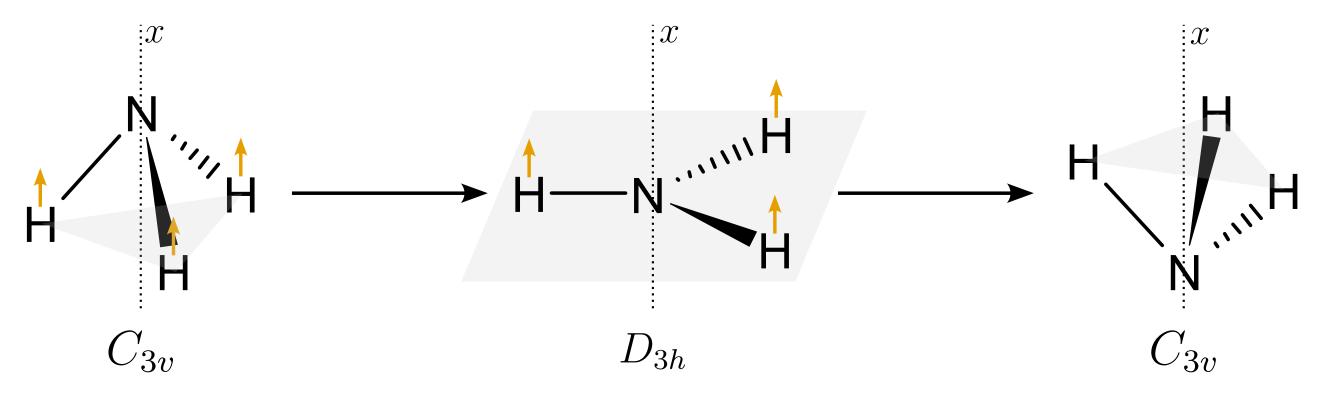
Tunnelling is present since the evolution of the primitive Universe, allowing the origin and evolution of life.

## Introduction and main objective

■ Visualize tunnelling, in real time, with your own eyes



■ Study tunnelling in a realistic example, the inversion motion of NH<sub>3</sub>, which gave birth to the first MASER



■ Double symmetric potential well: lower energy equilibrium  $C_{3v}$  (wells) and higher energy  $D_{3h}$  (barrier)

#### Hammiltonian

$$\hat{H} = -\frac{\hbar^2}{2\mu} \frac{d^2}{dx^2} + \frac{V_b}{x_e^4} x^4 - \frac{2V_b}{x_e^2} x^2 + V_b$$

#### Hola

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## Theorem 1: title

contents

**Proposition 2: title** 

contents

Conjecture 3: title

contents

Lemma 4: title

contents

Claim 5: title

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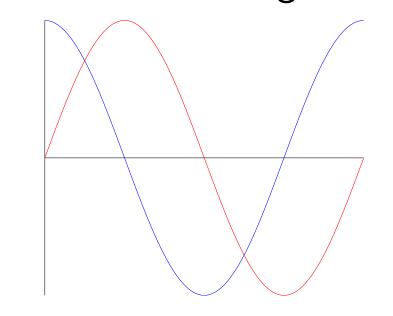


Figure 1. Another figure caption.

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## An example block containing some math

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$$\int_{-\infty}^{\infty} e^{-x^2} \, dx = \sqrt{\pi}$$

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## A heading inside a block

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First column	Second column	Third column	<b>Fourth</b>
Foo	13.37	384,394	$\alpha$
Bar	2.17	1,392	$\beta$
Baz	3.14	83,742	$\delta$
Qux	7.59	974	$\gamma$

Table 1. A table caption.

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### References