ISSN: 2995-3286

Short Communication Article

International Journal of Media and Networks

Goldbach's Conjecture

Bassera Hamid*

Department of Mathematics, Paris, France

Corresponding Author
Bassera Hamid, Department of Mathematics, Paris, France.

Submitted: 2024, Jun 10 ; **Accepted:** 2024, Jul 01 ; **Published:** 2024, Jul 15

Citation: Hamid, B. (2024). Goldbach's Conjecture. *Int J Med Net, 2*(7), 01.

Abstract
In this article I try to make my modest contribution to the proof of Goldbach's Conjecture and I propose to simply go through its negation.

Let E be the prime numbers set.
The Goldbach conjecture states that :

$$\forall k \in \mathbb{N}^*/\{1\} \quad \exists (p,p') \in E^2 \ / \qquad 2k = p + p'$$

Suppose this statement is false, then :

$$\exists k \in \mathbb{N}^*/\{1\} \quad \forall (p,p') \in E^2 \ / \quad 2k \neq p + p'$$

$$2k \neq p + p' \text{ is equivalent to either 2k } < \text{ p+p' or 2k } > \text{ p+p'}$$

in the case 2k < P + P'
as p and p' are arbitrary we can set the value of p' to 2 for example then,
2k-2 < p.

but k ≥ 2 then 2 ≤ 2k − 2 so ∀p ∈ E 2 < p,
it does mean that 2 is not prime! which is absurd.

in the case 2k > P + P' then for P'= 2, P < 2k-2, so E is bounded and this is absurd too.

So, the negation of Goldbach statement is false.

Conclusion: The Goldbach's conjecture is true.