Complete resolution of Kepler's third Law and problem of determination of powers of 2 as sum of Two Lucas numbers

Pagdame TIEBEKABE
University of Kara, Togo

In this article, we completely solve Kepler's Third Law which is considered as a Diophantine equation thanks to the mathematical method of Diophantine equations. This method has allowed to solve several problems in number theory and we have shown its application in Physics and Chemistry . Next, we determine all the powers of 2 which are the sum of two Lucas numbers. A Lucas sequence is defined by the following relation: L_0=2,L_1=1 and L_(n+2)=L_(n+1)+L_n for n≥0.

I. Diouf , Powers of three as difference of Two Fibonacci Numbers, JP Journal of Algebra, Number Theory and Applications, Volume 49, Number 2, (2021), Pages 185-196. Diouf, I. Linear forms in logarithms and the mathematical method of diophantine equations: applications in chemistry and physics. J Math Chem (2021). Diouf, I. New Divisibility Tests, Far East Journal of Mathematical Education, Volume 21, Number 1, (2021),

On solutions of Diophantine equation $F_{n_1}+F_{n_2}+F_{n_3}+F_{n_4}=2^a$, Journal of Algebra and Related Topics, accepted for publication. On Pillai's problem with Tribonacci and Pell-Lucas Numbers, submitted in Monatshefte für Mathematik

Biography

Pagdame TIEBEKABE is a specialist in number theory. He works on linear forms of logarithms and their applications to Diophantine equations. He made a recent discovery which shows an application of the methods used in number theory, physics and chemistry. He is a young, passionate and dynamic researcher. He solved several problems in number theory and in Physics