

## **MATHEMATICAL STUDY OF THE UNIVERSE (A GEOMETRICAL MEANING OF CIRCULAR NUMBER LINE)**

**D. K. YADAV, S. GUPTA, D. K. SEN, SIPRA MOHANTY, SARITA RANI  
AND DEEPA SHARMA**

### **Abstract**

This paper presents a concise discussion on the mathematical aspects of the universe. In the present paper the geometrical meaning of circular number line, Yadav [3], the superset of imaginary number line, Yadav [1] has been discussed in context of the universe. By considering different values of  $i$  on the circular and imaginary number lines, the Big Bang theory, Pulsating theory, Friedmann's theory and No-Boundary theory of the Universe have been explained mathematically. In this paper it has been proved that the universe will expand first and then contract upto a finite limit. The expansion and the contraction will continue forever alternately. Finally it has been found that the pulsating theory of the universe is the most appropriate explanation of the universe and the Big-Bang theory is a particular case of Pulsating Theory. Yadav D. K. [15] has also proposed a new theory known as D-theory of the universe, which explains the future possible event that may occur regarding Big-Crunch and proved the existence of God by applying social responsibility character of human beings in God, if they exist.

---

**Key Words:** Imaginary Number Line, Circular Numer Line, Imaginary Circle, Imaginary Sphere, Universe, Big Bang theory, Pulsating theory, Friedmann's theory, No-Boundary theory, etc.

**2000 Mathematics Subject Classification:** 30-02, 30A99, 85A15, 85A40.