

## On the time measurement units and measuring instruments of Samanta Chandrasekhar, the great naked eye Astronomer

G SAHOO<sup>†</sup>

Revenue Officer's Training Institute, Gothapatana, Bhubaneswar-751003, Odisha, India  
E mail: gourishankar.sahoo@gmail.com

Received: 23.11.2019 ; Revised : 11.12.2019 ; Accepted : 4.1.2020

**Abstract .** Mahamahopadhyaya Shri. Chandrasekhar Singh Harichandan Mohapatra Samanta popularly known as Pathani Samanta was born in the then princely state of Odisha, Khandapadagad in 24<sup>th</sup> December 1835 (*Pausa Krusna Astami tithi*)[1]. He was a great naked eye astronomer mankind has ever seen [2]. *Sidhanta Darpan*, written by him is a masterpiece in astronomy and still being used in the state *Odisha* and especially in the rituals of *Jagannath Dham, Puri*. In this communication only time measurement units and measuring instruments used by him for local time calculation is discussed. In *Sidhanta Darpan* (Pratham Prakash, Sloka 25-30) different smaller units of time is given and it is worth noting that the smallest unit of time i.e. 'Truti' used by *Samanta* is  $\sim 4.9382E-6$  s, which is of the order of  $\mu$ s. In subsequent verses (slokas) largest unit of time known to him is described and it is  $\sim 3.11 \times 10E14$  years. Again, it is interesting to note that one day of *Brahma* (referred in mythologies as the creator of everything) is  $8.64E9$  years as per the calculations of *Samanta* and he has a bold prediction that out of the current holy day of present *Brahma*,  $1.97E9$  years has been elapsed. Modern calculation and prediction is of the view that  $\sim 1.38 E10$  years from Big Bang (creation of universe) has been passed till date [3,4]. Again, *Samanta* is of the view that this *Brahma* will live for all total  $3.11E14$  years. The two values are not very far from each other. In this communication different time measuring low cost instruments like *Chapa Yantra*, *Golardha Yantra*, *Chakra Yantra Swayambaha Yantra* etc. are discussed in detail in this communication.

**Key words:** unit, Big Bang, yantra

[\[ Full Paper \]](#)