

# MCS Physics

## Article 2:

### *EMP* and TIME

by  
Meir Amiram

P.O.B. 34359 Jerusalem, Israel 91343  
e-mail: meir.amiram@gmail.com  
[www.mcs-physics.org](http://www.mcs-physics.org)

#### Abstract

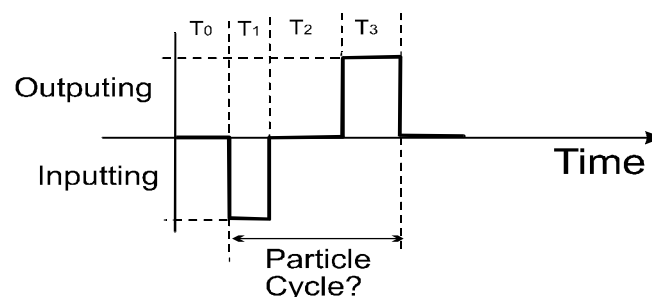
In [Article 1](#) I have concluded that there is an elementary mass particle *EMP*, comprising a gravity generator *GG* which is no less and no more than a mechanism capable of receiving a particular input from its environment and of returning a particular output to the environment, **within a particular time frame**<sup>[1]</sup>. In the present article, I deduce that said time frame is divisible into three non overlapping time intervals:  $T_1$  stands for the time interval during which the particle receives the input;  $T_2$  stands for the time interval during which the input is processed by the particle; and  $T_3$  stands for the time interval during which an output is returned from the particle to the environment.

#### Particle doings are time consuming

As inferable from quantum mechanics, the take-ins and give-offs of particles are not of a continuous character. As such, the lapse of time (as tiny as may be) which may occur between the moment a particle takes in and the moment it returns a give off, should not be ignored.

Actually, for particles associated with fields, three time intervals should be discussed: (i) the time it takes a particle to take in a particular input (this interval will be referred in my articles  $T_1$ ); (ii) the time it takes a particle to give off a particular output ( $T_3$ ); and (iii) the time it takes a particle to process a particular taken input ( $T_2$ ) until a particular output is returned by.  $T_0$  may also exist, between the tail of  $T_3$  (the end of a give off) and the head of  $T_1$  (the start of another take in). Note, that by now this article deals with particles in general. In articles to follow it will become apparent, however, that  $T_0$  may be ignored, at least as far as gravity concerned. Since the remaining of this article concentrates in the gravity generating mechanism of an *EMP*, let assume  $T_0 \ll T_1 + T_2 + T_3$  and omit it from further discussion.

It is tempting to name the sum  $T_1 + T_2 + T_3$  of the three time intervals “particle cycle”:



It should be noted, however, that such naming is misleading: as will be shown in articles to follow, the *EMP* has actually two interwoven operation cycles, which slightly complicate the definition of its “particle cycle”.

Meanwhile, and based once more on the logic that a particle is a mechanism capable of receiving a particular input and of returning a particular output within a particular time frame, the following hidden features of particles in general and of a *GG* (gravity generator) in particular, may be concluded:

- (i) particles have cyclic operation; and
- (ii) in the course of a complete operation cycle, elementary particles perform three distinct activities during three distinct respective time intervals  $T_1$ ,  $T_2$  and  $T_3$  (or four, if  $T_0$  is to be counted).

As I will show, the relations between these three time intervals play crucial roles in determining the workings of our universe.

In the next article titled *Hubble Expansion*, an equation predicting how the Hubble parameter  $H_0$  varies as a function of time will be logically deduced and discussed.

### Article sum up

Each *GG* has a cyclic operation the duration of which is (in some special way yet to be discussed) the sum of three time intervals:  $T_1$  is the time interval during which the particle takes in;  $T_2$  is the time interval during which the take in is processed by the particle; and  $T_3$  is the time interval during which the particle gives off to the environment.

### Glossary

- $T_0$  the time spent by a particle before starting to take in, following a give off
- $T_1$  the time spent by a particle to take in a particular input
- $T_2$  the time spent by a particle to process a particular taken input
- $T_3$  the time spent by a particle to give off a particular output



### References

- [1] Meir Amiram: MCS Physics [Article 1](#): Particle (2011); *viXra:1106.0008* ([184] *Quantum Gravity and String Theory*)