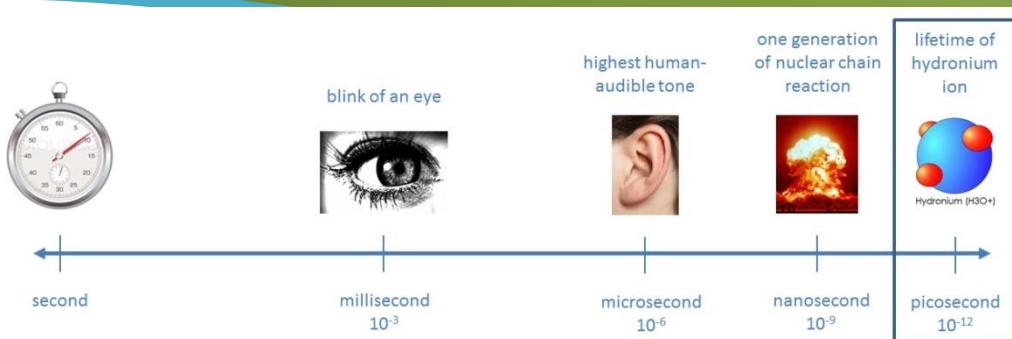


Synchronization for High Speed Video



THE INVENTION

We have developed a system which enables near perfect synchronization of high-speed video footage for observation of events happening at pico second speed. The system inherently synchronises high-speed, digital, independent cameras with exceptional accuracy by (a) making use of image sensors which have been manufactured under identical conditions and (b) dispensing with all but one clock signal. The system is compatible with the industry standard Camera Link® for data transfer.

NOVELTY

The system is the best electronic method available and a low cost solution which offers the following benefits:

- Imaging of ultra high speed (<100ps) processes in 3D, future-proof
- Flexible system suitable for a variety of applications by varying frame rate and resolution as well as independent mounting of cameras
- Reliable, robust, resistant to jitter, no moving parts
- Scalable due to low weight and complexity, using only a single transmission cable
- Low cost as low power, standard components are used

APPLICATION FIELDS

The proposed application area is High Speed Industrial Multi-Vision. The technology can also be applied to the following industries:

- Automotive stereovision: driver alertness, road surface condition monitoring, road junction assistance, lane departure warning, blind spot warning, near and farfield obstacle detection and collision avoidance
- Crash Testing: combining information from multiple camera sources to analyse fast events (such as air bag dynamics and structural collapses)
- Manufacturing: to study the behaviour of production line equipment at full operational speeds
- Medical Imaging: for example high resolution infrared tomography where motion of the patient has an impact on resolution
- Scientific Instrumentation: imaging of high speed processes (such as fracture propagation, droplet formation or combustion wave-fronts), Doppler velocimetry, observation of explosions

The development was executed at and supported by the University of Malta, sole owner of the rights. The university's IP is managed by its Knowledge Transfer Office. Inquiries shall be submitted to knowledgetransfer@um.edu.mt, or further information may be obtained on +356 2340 3930.

IP STATUS

Patents have been granted in the U.S. (no. US865425) and Japan (no. JP5512683). The EP application is still in the National Phase (no. EP2332339).

COMMERCIAL INTEREST

We are looking for potential licencees and collaborators to develop a final product for commercialisation. We are also interested in hearing from researchers who would like to test the system on for their specific application.

LEAD INVENTOR



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