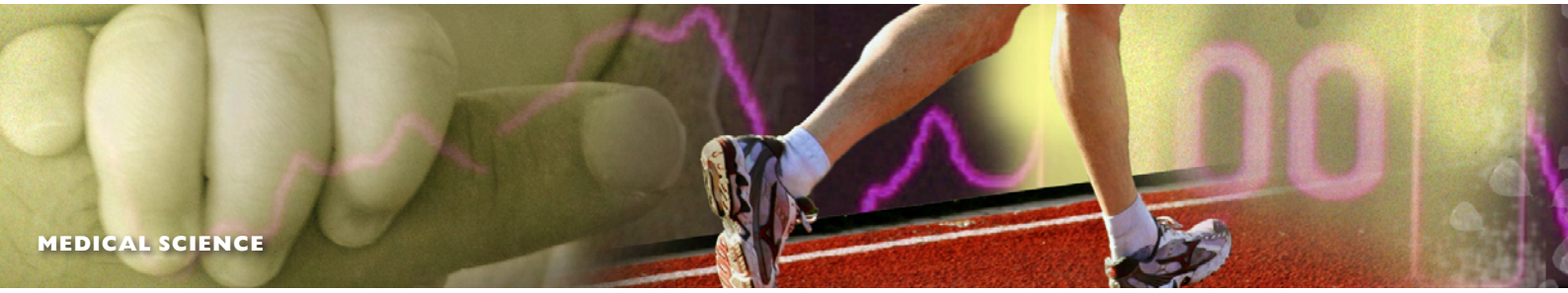
QUALISYS
Motion Capture Systems



Sports analysis

an objective analysis of parameters related to sports applications

Motion capture is ideal for a wide range of sports applications in research, rehabilitation, physical education and practice. Physical limitations and movement optimization are of great interest to athletes, coaches, researchers and doctors. Motion capture allows us to learn more about injury mechanisms and prevention. It can also be used to improve a player's technique for better results in various sports applications.

KEY FEATURES

- Portable – PC laptop for data capture and analysis
- Outdoor measurements
- Support both active and passive markers
- Modular system, allowing future expansion when needed
- High accuracy
- High sampling rate, up to 1000 Hz
- Quick system set-up
- Fast data processing – from capture to analysis
- Measurements in both small and large volumes
- Licenses for multiple use
- Synchronization to external systems

Application Note

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EXAMPLE OF STUDIES

- Studies of the effect of psychological factors (goal-keeper and penalty kicker in soccer)
- Design of sports equipment such as golf clubs and tennis rackets
- Studies of differences between various makes of sports equipment
- Studies of differences in performance between wood and aluminum baseball bats
- Analysis of tremor displacement using different types of air pistols

REFERENCES

- Hong Kong Sports Development Board, Hong Kong Sports Institute
- Norweigian University of Sports and Physical Education, Oslo, NORWAY
- Liverpool John Moores, Institute of Sport Sciences, Liverpool, U.K.
- Osaka Sports University, Osaka, JAPAN
- University of Massachusetts, School of Public Health & Health Sciences, Massachusetts, USA

THE QUALISYS MOTION CAPTURE SYSTEM

The unique flexibility and portability of the system makes it easy to set up the equipment and transport it to different arenas or other sporting venues. Fully objective, quantitative data can be obtained for the calculation of joint angles, acceleration, moments, force, elasticity, deformations, body posture, balance and other parameters. The system can be synchronized with other measurement systems such as force plates, EMG and accelerometers by using the Qualisys portable analog interface.

HOW CAN IT BE USED?

In addition to biomechanical studies, motion capture may be used to study how external, psychological factors affect balance, movement ability and performance (noise disturbance). It can also be used to individually adjust sports equipment such as golf clubs, tennis rackets and skis.

EXAMPLE OF APPLICATION AREAS

Examples of sports where the Qualisys Motion Capture System is used today include track and field, golf, cricket, baseball, tennis, skiing, dance, soccer, martial arts, fencing, rowing and gymnastics.

Tennis study at The University of Greenwich in UK

Sports biomechanics laboratory at Liverpool John Moores University in UK

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