

Combining low dose irradiation stereoradiography and movement analysis: What could be gained in kinematics?

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Functional methods are attractive approaches for the determination of joint center or joint functional axis. However, these methods suffer from a lack of validation with respect to the underlying bones' anatomy. The EOS medical imaging system offers the opportunity to obtain a 3D subject-specific reconstruction of the skeleton with a low-dose of irradiation. Data fusion between can be used to benefit from this personalized reconstruction in the motion capture environment. This presentation will focus on the quantification of the data fusion accuracy for the hip and the knee joints. As an example of application, the procedure will be used to validate functional knee joint calibration and show the impact of this method on the kinematics of the knee.