

Computational Analysis Of Fiber Bragg Grating Based Hand Grip Measuring Device For Assesment Of Post Surgical Rehabilitation

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Abstract

Present work describes computational analysis of Fiber Bragg Grating (FBG) based hand grip device, which has potential to act as an enabler in assessment of post-surgical wrist hand grip rehabilitation. Understanding behavior of FBG sensor becomes very critical for best use and optimum position of the sensor and hence a thorough computational study becomes the key. In this regard we have used RSoft advanced optical software which can bring properties of FBG sensor and allows to emulate the real time scenario in terms of load to bring accurate results which will assist in planning for a thorough experimental study. From this work it is evident that the results of the computational study clearly demonstrate the possibility of using this data and coming up with prototype which can help to build a comprehensive medical diagnostic tool for assesment of post-surgical wrist hand grip rehabilitation.