

Discussion on Designs for Computer Experiments on Achilles Tendon Load

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Abstract

In this presentation, we discuss a suitable design of experiments for Achilles tendon simulation experiments. The shape of the Achilles tendon varies from person to person. When playing sports, the load applied depends on the shape of the Achilles tendon. This simulator aims to clarify the relationship between the shape of the Achilles tendon and the load applied during exercise. There are various practical requirements for this simulation experiments. For example, the number of factors is 8, and it is required to determine each level based on the results of human body measurements. In addition, since it is required to accurately grasp the behavior of the load on each factor, it is desirable that projected design on each factor has multi-level design. The number of simulation experiments should not exceed 100 due to constraints on model creation and computation time. The number of simulation experiments should be more than 100. In this presentation, we will discuss the preferred design of experiments for this simulation based on these requirements.