Comparison of Dynamics of an Ankle Based SLIP Model with a Non Ankle Based SLIP

Problem description:
Spring Loaded Inverted Pendulum are state of the art models used to understand human walking dynamics as they are computationally inexpensive. Geyer et al.[2] showed similarity in dynamics of reproduced through a SLIP model with human walking data. A SLIP model employs a fixed position for leg in stance which might affect the capability of the model to a certain extent. Maykranz et al. [1] provided the existing SLIP model with an ankle joint to allow variability in foot contact position. A comprehensive comparison of a how an ankle based SLIP differs from a non ankle based SLIP.

Work schedule:
• Develop an ankle bases conservative SLIP model.
• Comparison of ground reaction forces, COM trajectory and change in mechanical energies during a gait.

Bibliography:

Supervisor: M. Sc. Karna Potwar
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(D. Lee)
Univ.-Professor