

Finite Element Analysis of Head Trauma

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Catastrophic head injuries are one of the most prevalent injuries sustained by soldiers on the battlefield today. With the vast amount of computational power available today and sophisticated simulation software, such as LS-Dyna, it only makes sense to examine these head traumas using simulations. Such simulations allow for accurate computation of physical phenomenon without risk to individuals and with the ability to gather far more data than would be available in a real experiment.

There are many challenges to setting up such a simulation. I will first discuss the challenges in modeling such a simulation. I will then discuss the setup required for the simulation variables, such as materials, loads, and contacts for objects. Finally, I will discuss the visualization of such simulations and show some preliminary results.