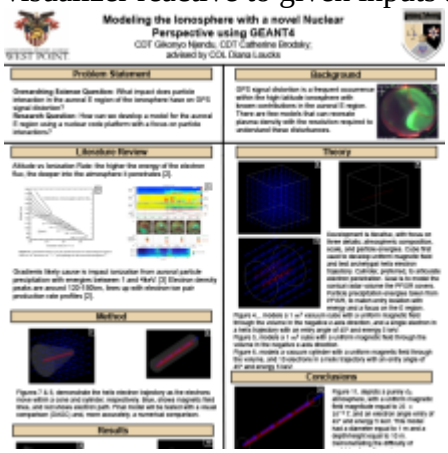
Gikonyo
Njendu
United States Military Academy
CDT Catherine Brodsky; COL Diana Loucks, Ph.D.; CDT Lauren Coleman; Dr. Mai Tran; CPT Nicholas Deschenes
Poster
GPS signal distortion is a frequent occurrence within the high-latitude ionosphere, with known contributions in the auroral E region. Few models can recreate plasma density with the resolution required to understand the cause of these disturbances. We are creating a 3D ionospheric model by utilizing existing nuclear code platforms and data from digital all-sky imagery. A nuclear model perspective is a very novel approach as it focuses on particle interactions that occur. An iterative development process will occur whereby each cycle will feature an expanded model with increased complexity than its predecessor. Between each cycle, a series of tests will occur to discover both the model's and code platform's limits. Although nascent in development, long-term expected outcomes include a complete model of the auroral E region that processes present data and creates a 3D visualizer reactive to given inputs and accurate regarding scale, plasma physics, and composition.



Poster PDF
Njendu-Gikonyo.pdf
Meeting homepage
Space Weather Workshop 2023
Download to PDF