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Heliophysics is deeply rooted in the heliospheric magnetic field (HMF) complexities. The HMF interacts with charged particles and, in large part, is responsible for the dynamics that go into simulating their transit through the heliosphere. Heliophysics is studied to further understand the laws governing the Sun and Earth. Modeling suprathermal electron transport through the solar wind and HMF will build upon research done that mapped suprathermal electron transport (STET) within the Earth's magnetosphere. The proposed research extends beyond this and works by building upon an adaptation of STET called Heliospheric STET (HelioSTET), which models transport under different parameters. This model specializes in analyzing pitch angle scattering and could potentially measure and model electron strahl due to forces induced by the HMF. The current model needs to be developed to expand its capabilities in executing the goal of a complete HMF model. This will be accomplished by implementing two new frameworks. The first is Fluxon, a 3-D time-dependent MHD simulation that renders magnetic field lines based on topology fitting. The second framework is DECAPODES, a discrete exterior calculus differential equation evaluator that simultaneously allows building a visual interface to facilitate variable relationships and operators. DECAPODES will be added to HelioSTET to apply the kinetic equation and significantly boost computational efficiency. With the proposed model development, HelioSTET could offer insight into the connection between the Sun and Earth, and strengthen our understanding of its complex dynamics.

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