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Poster

The solar cycle and its variability are Consequences of Fields and Flows in the Interior and Exterior of the Sun (COFFIES). The COFFIES DRIVE Science Center, funded by NASA's Heliophysics Division, is dedicated to unraveling how the Sun generates periodic magnetic cycles that cause space weather and influences the entire heliosphere. The initiative seeks to understand the drivers behind large-scale plasma motions, their interaction with magnetic fields to create solar activity cycles, the emergence of active regions, and how these solar processes can inform stellar studies. The COFFIES team is comprised of experts from 14 institutions, skilled in helioseismology, dynamo modeling, solar convection, and surface flow observations. Bringing together experts from these diverse fields, we unite to collaboratively tackle three major cross-cutting science themes: the Tachocline, the Near Surface Shear Layer, and Flux Transport and Emergence. By leveraging our varied expertise, COFFIES is primed for rapid advancement in these areas, with the ultimate goal of improving cycle forecasting capability by developing data-driven physical models of solar activity. The center is dedicated to enhancing science knowledge while also inspiring STEM students and sharing the thrill of solar physics with the wider community. COFFIES holds a strong commitment to Diversity, Equity, Inclusion, and Accessibility, creating a supportive atmosphere for collaboration between scientists, students, postdocs, and those at the early stages of their research careers. External collaborations are encouraged, with resources available to facilitate such partnerships. For more information about COFFIES and how to get involved, visit us at coffies.stanford.edu.



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