

Abstract Submitted
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Magnetic Flux Tubes in the Solar Interior WILLIAM ABBETT, UC Berkeley — I will present an overview of recent efforts to understand the life-cycle of active region magnetic fields — from their formation deep in the solar interior to their ultimate decay observed at the visible surface. A critical component of these efforts is to understand the dynamic connection between magnetic fields (at both large and small scales) observed threading the solar atmosphere and their sub-surface counterparts. I will focus on the following questions: How well do we understand the physics of flux emergence through the solar convection zone — from the formation of magnetic flux tubes to their full or partial emergence through the photosphere? Can numerical simulations of active region magnetic fields explain the observed evolution and decay of surface fields obtained from vector magnetograms?

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