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Modeling of near surface lithium distribution in lithium fluoride after low energy electron irradiation. DWIGHT RUSSELL, Baylor University — Alkali halides provide a rich response to electron irradiation. Defect formation, recombination and diffusion, thermal and hyperthermal desorption and more play a role in the near surface dynamics. While many experimental results have been modeled accurately, measurements of the depth distribution of lithium and the rate of surface metalization (lithium enrichment) taken by Wurz and Becker in the late 1980's could not be understood with the prevailing models at that time. Since then, additional feature of the dynamics involved, including excited F-center mobility and growth modes on the surface add new possibilities in understanding these data. Here we present the results of including these new features into the modeling and discuss the optimal fit to the data in light of the more recent studies.

Dwight Russell
Baylor University

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