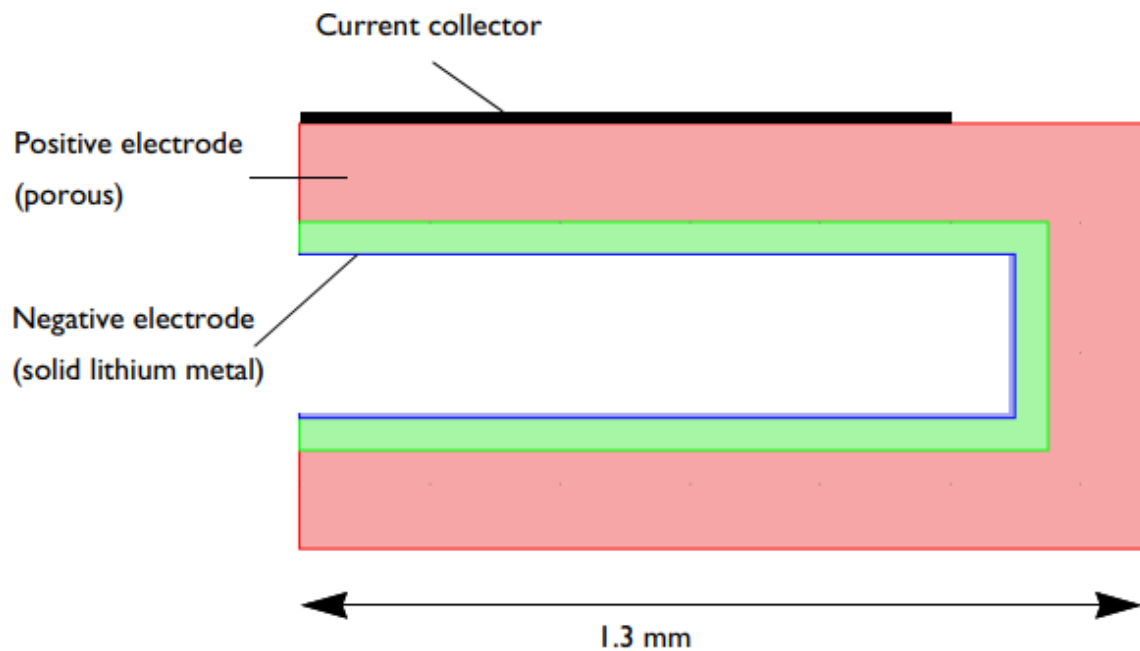
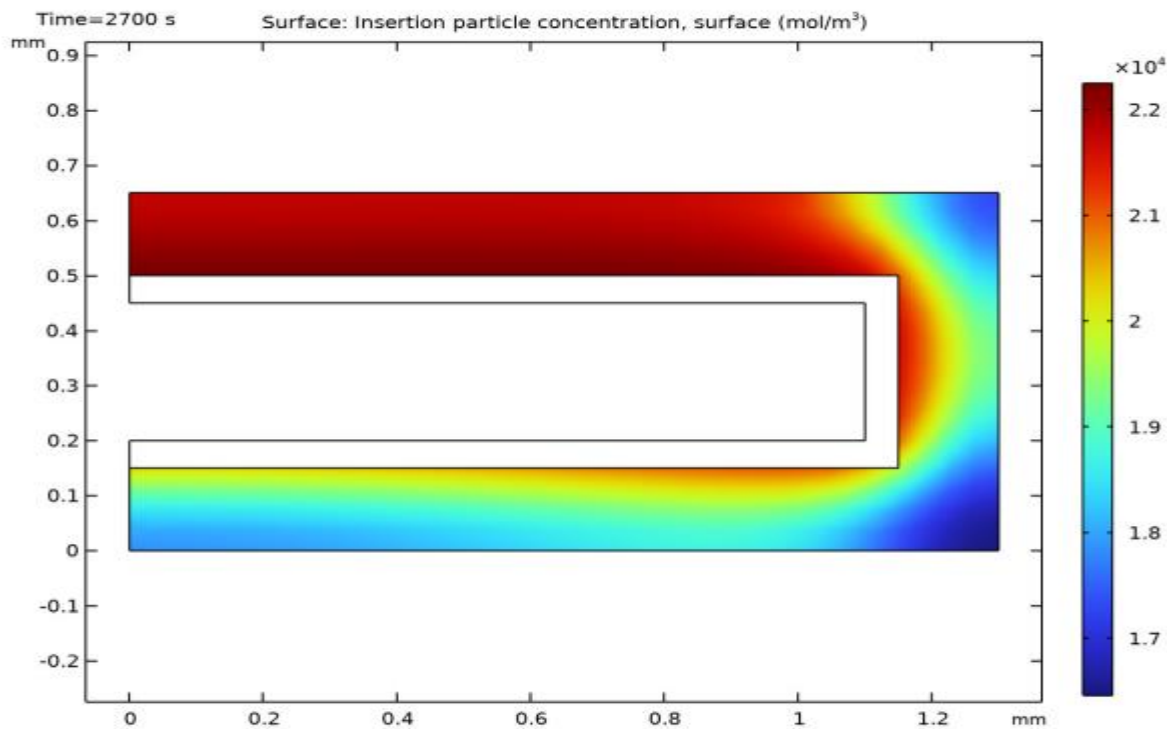


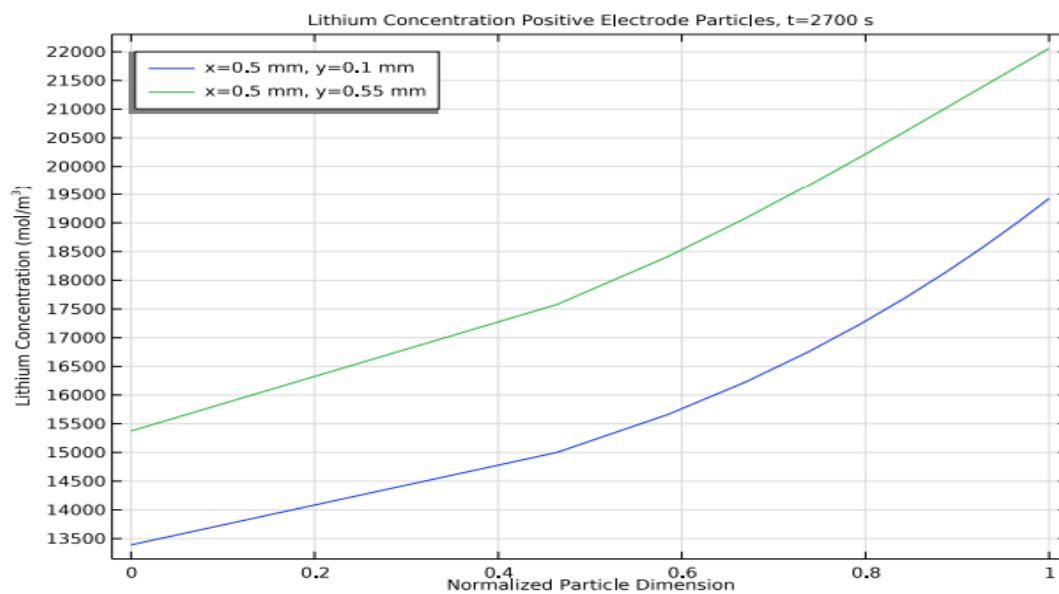
#FIG 1: 3D model geometry of Lithium-ion model



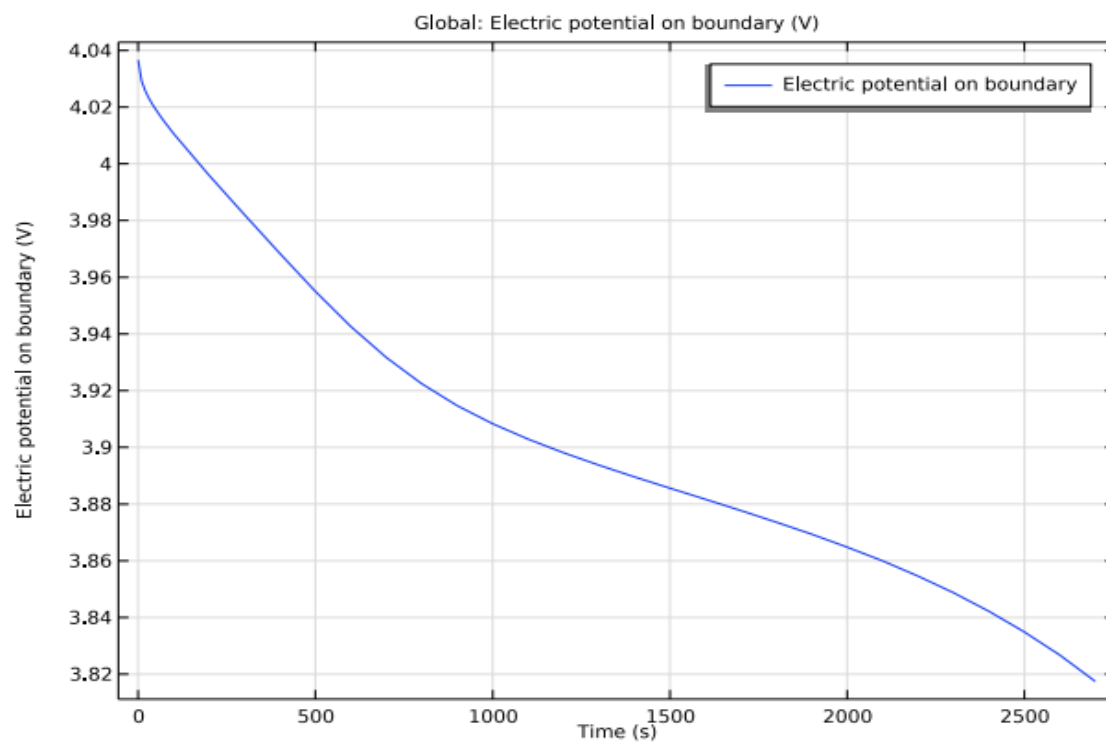
#FIG 2: A 2D cross-sectional model geometry with the thickness of the negative lithium metal electrode neglected.



**#FIG 3: Lithium concentration at the surface of the electrode particles at 2700 s**



**#FIG 4: Lithium concentration in the positive electrode particles at two selected positions, ( $x=0.5$  mm,  $y=0.1$  mm) and ( $x=0.5$  mm,  $y=0.55$  mm), within the model geometry**



**#FIG 5: Cell voltage variation during discharge.**