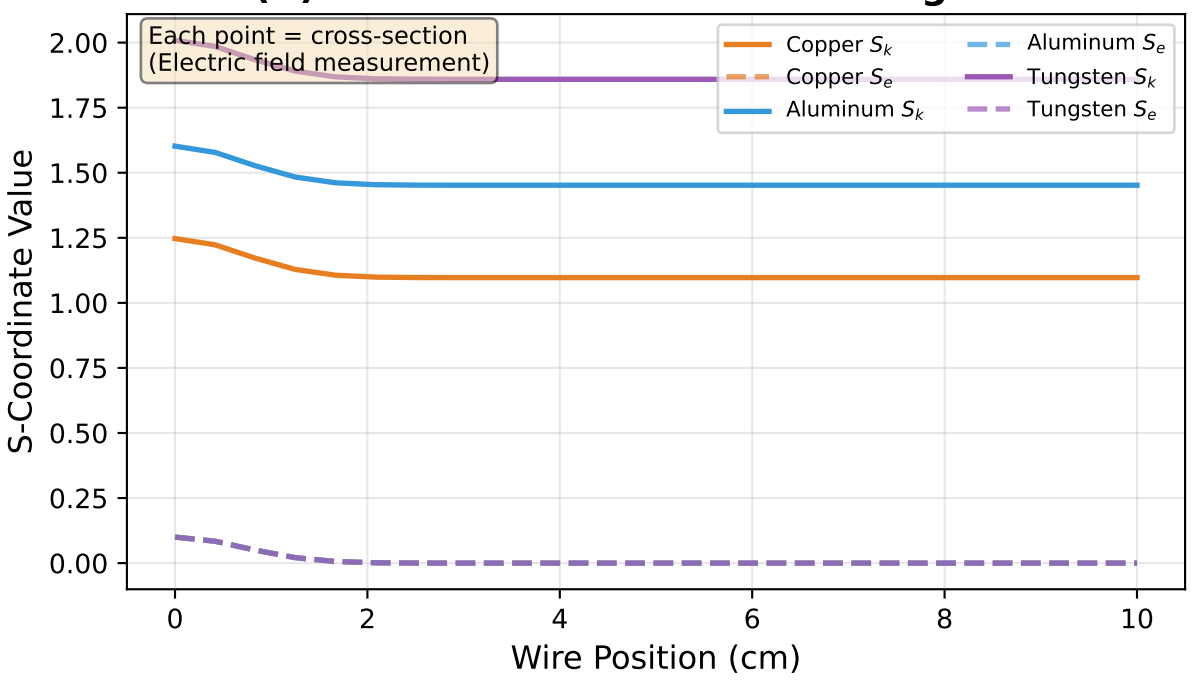
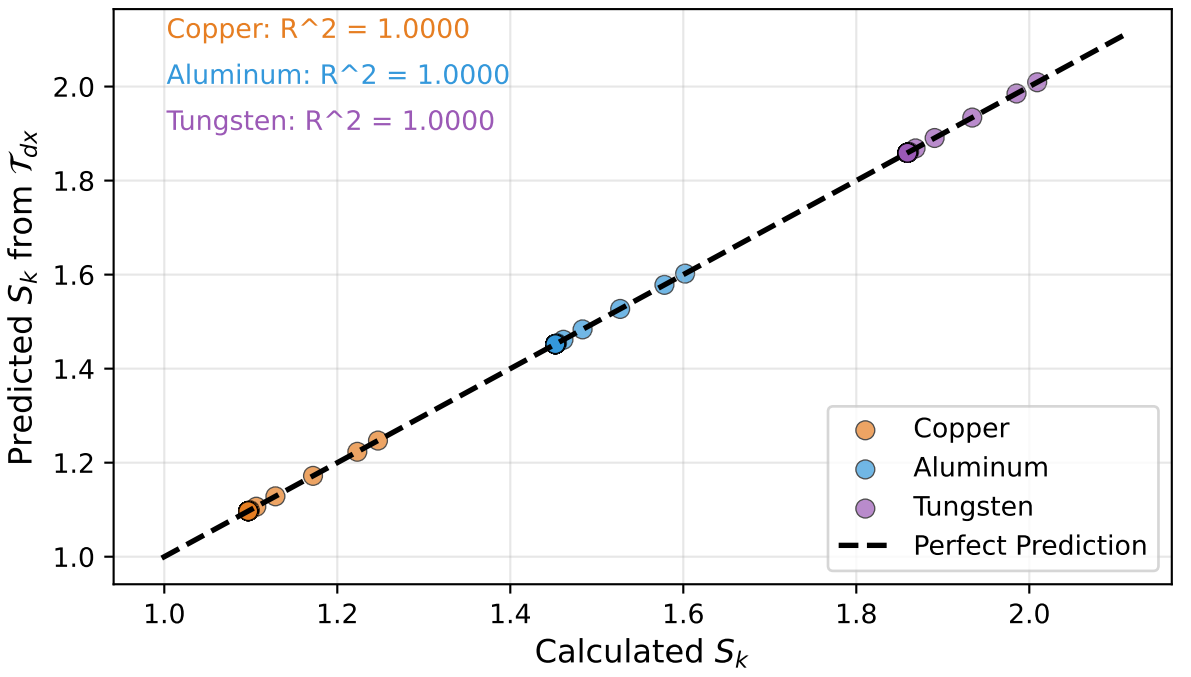
Cross-Sectional Validation of S-Transformation in Current Flow

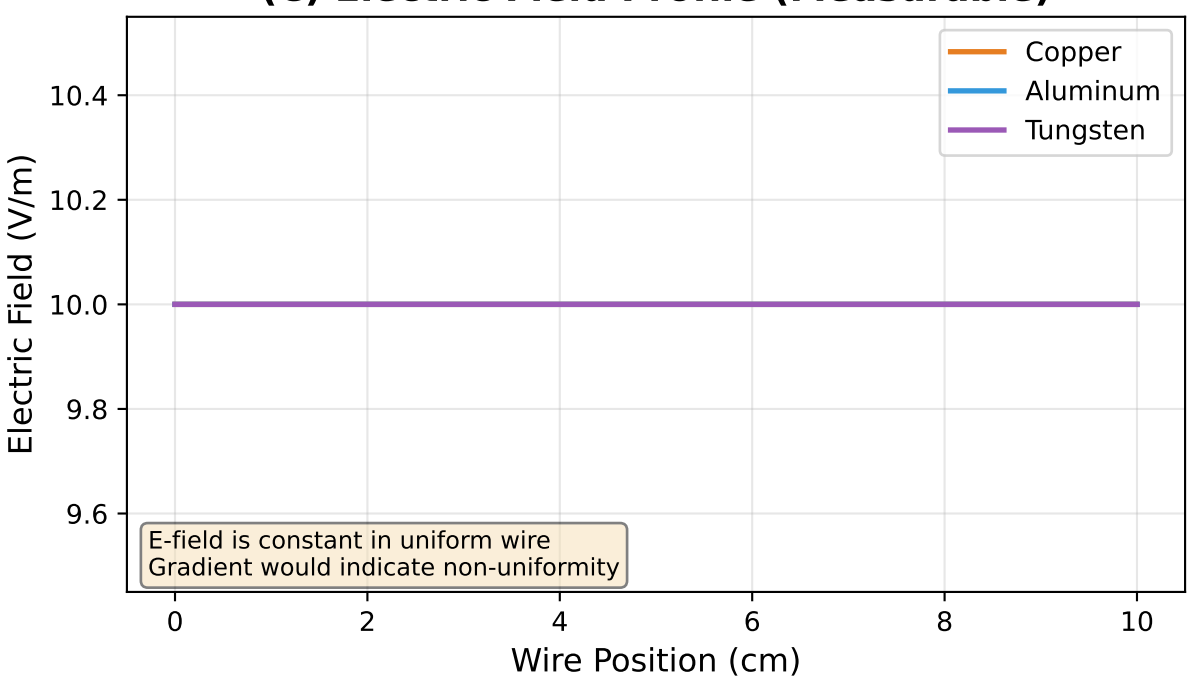
(A) S-Coordinate Evolution Along Wire



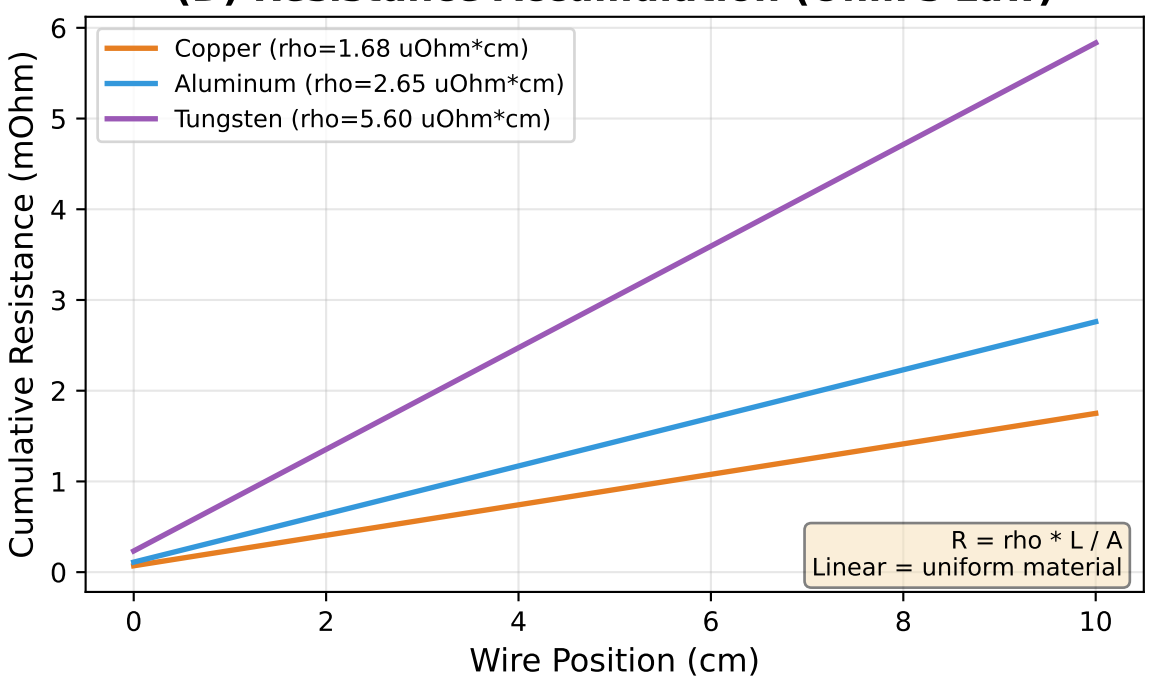
(B) Transformation Validation



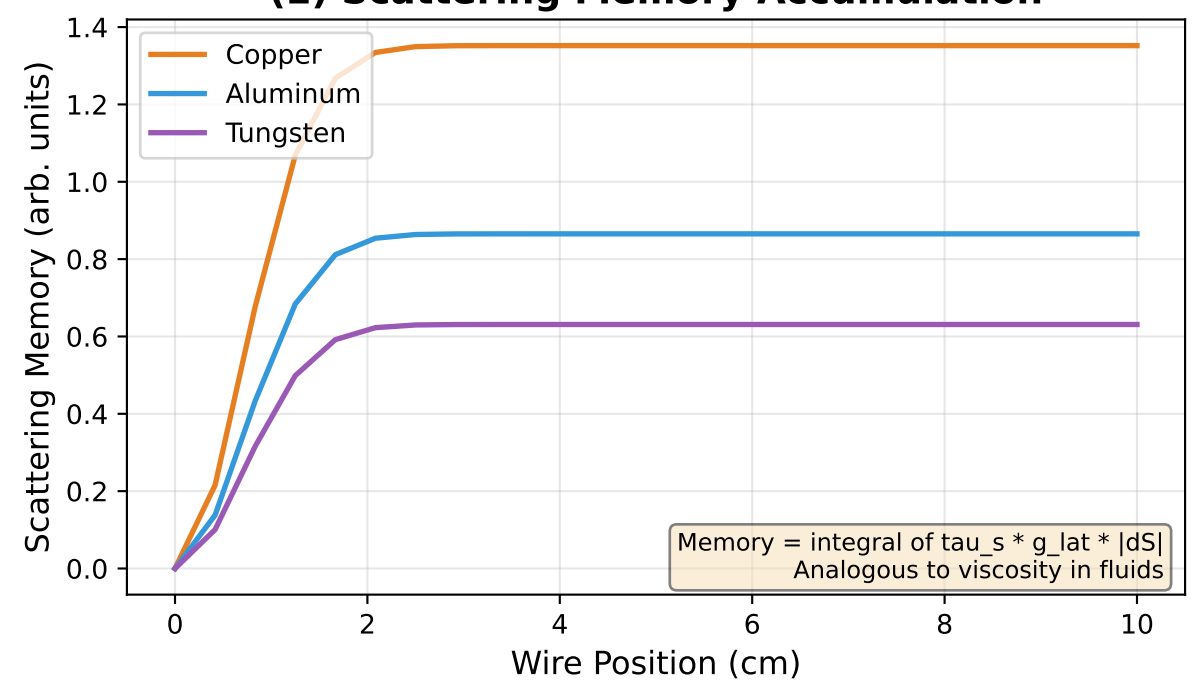
(C) Electric Field Profile (Measurable)



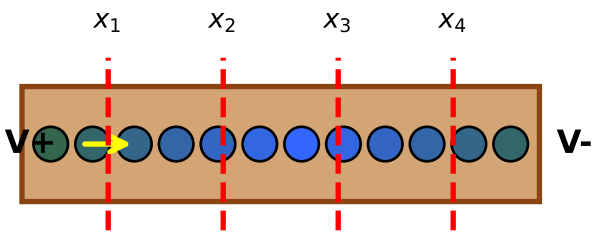
(D) Resistance Accumulation (Ohm's Law)



(E) Scattering Memory Accumulation



(F) Newton's Cradle Model of Current



Electron pushes electron: Newton's cradle

Cross-sections measure S-coordinates at each position

$$\vec{S}(x_{i+1}) = \mathcal{T}_{dx}[\vec{S}(x_i)]$$