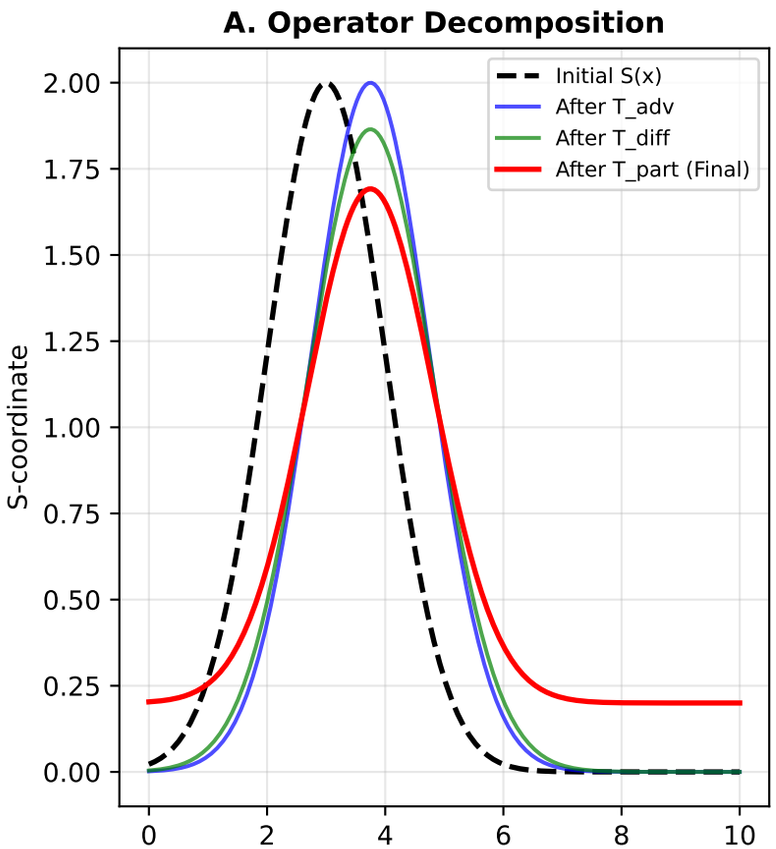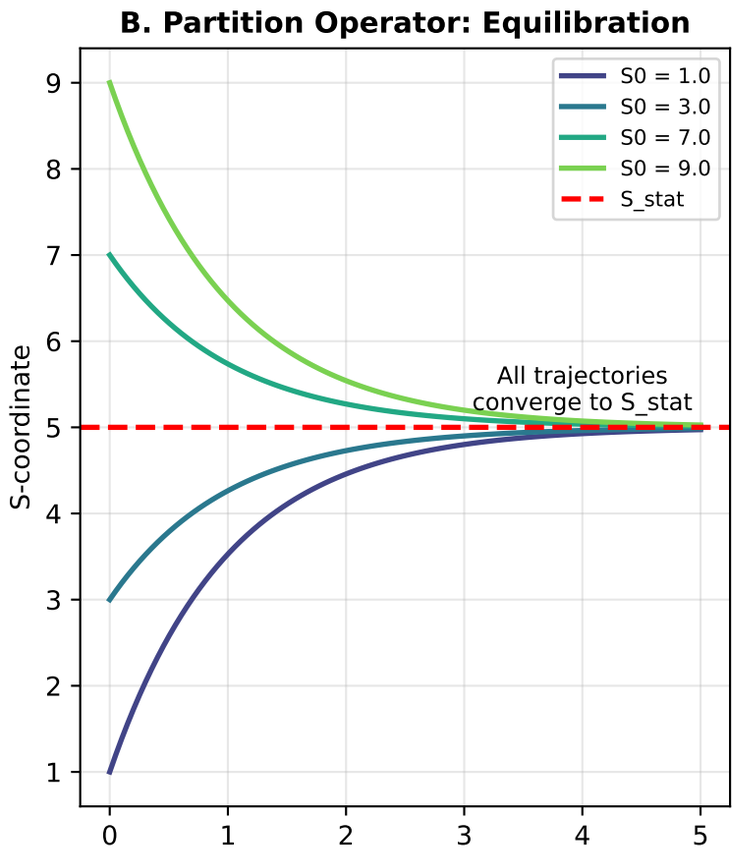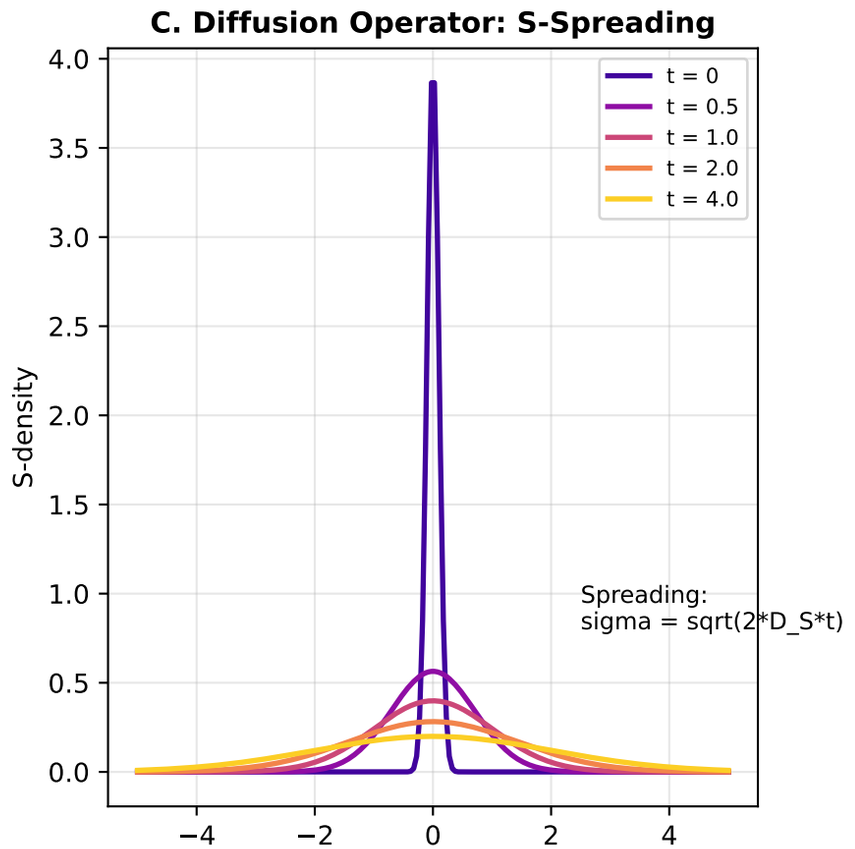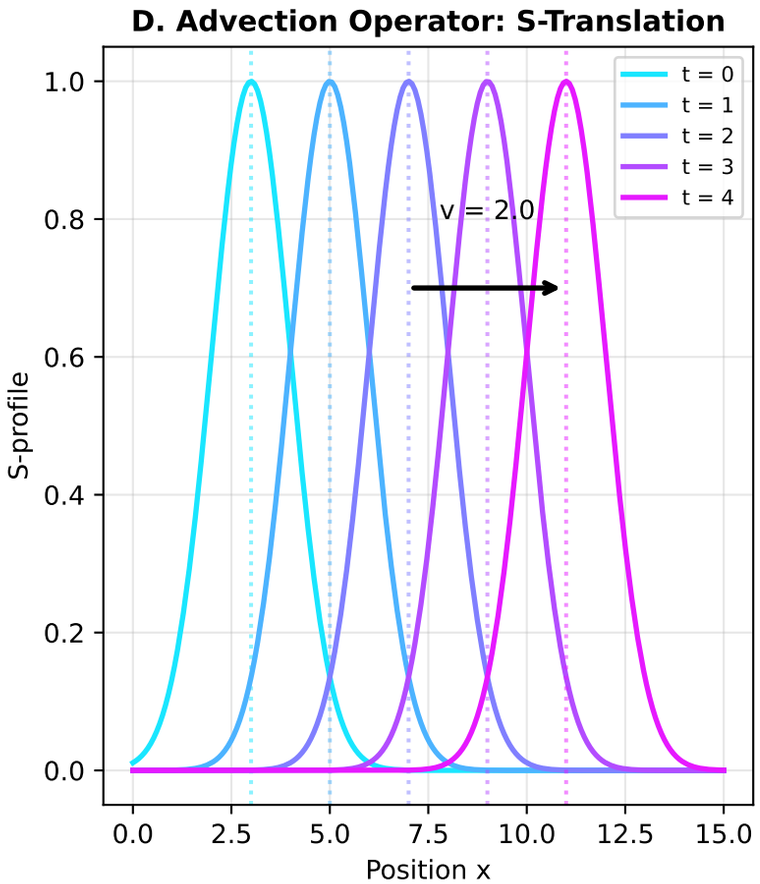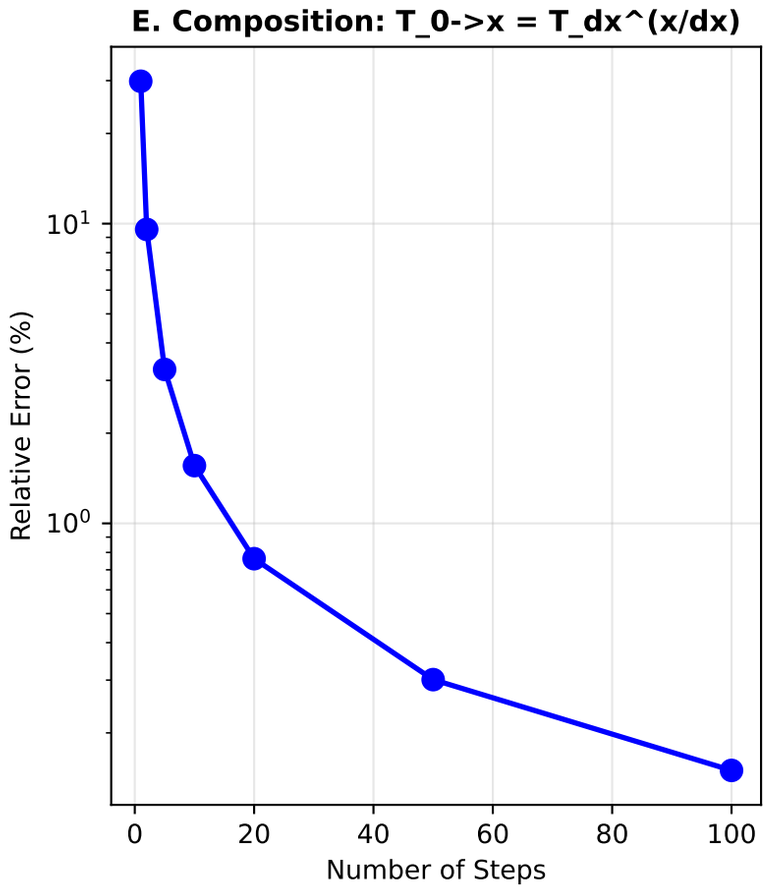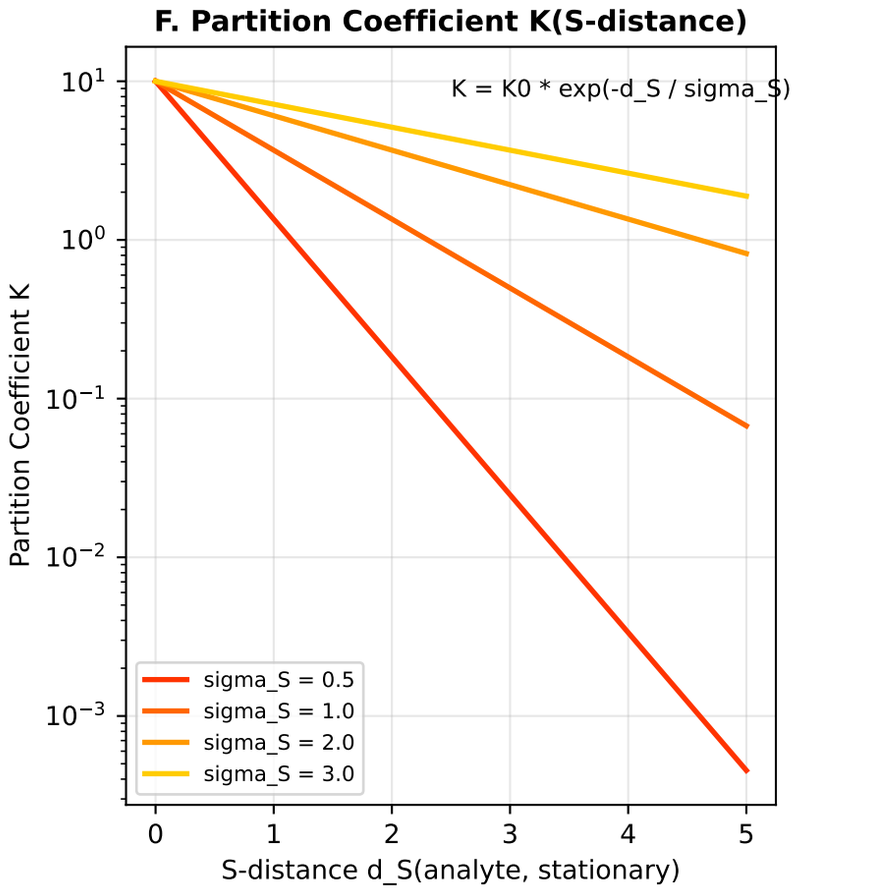Section 4: The S-Transformation Operator - Experimental Validation