



PAWR Project Office

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Air-to-ground UAV channel models must be both accurate and interpretable, and recent work has pursued this through Kolmogorov–Arnold Networks: PIKAN [Tekbıyık et al., 2026] replaces a KAN's learnable spline activations with symbolic functions drawn from free-space path loss and two-ray reflection, achieving MAE 2.99 dB / RMSE 3.96 dB on AERPAW measurements with only 232 parameters. PIKAN, however, is a *static* model: it maps instantaneous geometry, carrier frequency, horizontal and vertical distance, and arrival/departure angles, to path loss with no temporal context, leaving 44% of the measured variance ($R^2 = 0.561$) unexplained. We observe that this residual is not white noise but temporally correlated fading and is therefore predictable from the channel's recent history rather than its geometry. We evaluate a lightweight linear forecasting architecture on the identical dataset and the identical held-out time windows used by PIKAN, under two regimes: a covariate-only regime matching PIKAN's inputs exactly, and a temporal regime that additionally observes past path loss. We will present these findings.