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The structure of crossed products by automorphisms of $C(X, D)$

We construct centrally large subalgebras in crossed products of the form $C^*\big(\mathbb{Z}, C(X, D), \alpha\big)$ in which D is simple, X is compact metrizable, α induces a minimal homeomorphism $h : X \to X$, and a mild technical assumption holds. We use this construction to prove structural properties of the crossed product, such as (tracial) $\mathcal{Z}$-stability, stable rank one, real rank zero, and pure infiniteness, in a number of examples. Our examples are not accessible via methods based on finite Rokhlin dimension, either because D is not $\mathcal{Z}$-stable or because X is infinite dimensional. This is joint work with Dawn Archey and N. Christopher Phillips.