Crossed products of Hilbert pro-C^*-bimodules and associated pro-C^*-algebras

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ABSTRACT.

An action (γ, α) of a locally compact group G on a Hilbert pro-C^*-bimodule (X, A) induces an action $\gamma \times \alpha$ of G on $A \times_X \mathbb{Z}$ the crossed product of A by X. We show that if (γ, α) is an inverse limit action, then the crossed product of $A \times_\alpha G$ by $X \times_\gamma G$ respectively of $A \times_{\alpha,r} G$ by $X \times_{\gamma,r} G$ is isomorphic to the full crossed product of $A \times_X \mathbb{Z}$ by $\gamma \times \alpha$ respectively the reduced crossed product of $A \times_X \mathbb{Z}$ by $\gamma \times \alpha$.

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