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CORRECTION TO "SUBORBITS AND GROUP EXTENSIONS OF FLOWS", Israel Journal of Mathematics, Vol. 100, 1997, pp. 249–283

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At the begining of the proof of the sufficiency part of Theorem 6.1, which is the more difficult part, it is mentioned that conjugacy of the extensions of flows immediately implies conjugacy of the group covers of the extensions. However, as claimed in Theorem 2.4, this is true only when the group covers are minimal, but the group covers considered in Theorem 6.1 are not minimal in general. So, this small but important error should be corrected by replacing conjugacy of extensions of flows in the conditions of Theorem 6.1 by conjugacy of group covers of the extensions.

For this, we need related changes only for description, though, but do not need any change of the previous proof of the theorem. This is because we started the proof of the sufficiency part with conjugacy of group covers. For the necessity part, in Proposition 3.1 the pair of conjugacy maps considered there shows not only conjugacy of extensions of flows but also conjugacy of group covers.

The correct statement of Theorem 6.1 is as follows.

THEOREM 6.1: *Up to orbit equivalence, conjugacy of subgroups and conjugacy*

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of group covers of extensions of flows, there exists a bijection Υ:

$$\{(\mathcal{R},\mathcal{S})|\mathcal{R}(\text{and } \mathcal{S}) \text{ an ergodic amenable relation of type } \mathrm{III}_0 \text{ with index } [\mathcal{R}:\mathcal{S}]<\infty\}$$

$$\to$$

$$\mathcal{D} = \{((G,H,G_0),(\{F_t\},\{S_t\},\pi,\mathcal{L}_K,L))|G \text{ a finite group, } G_0 \text{ a normal subgroup of } G, \text{ and } H\subset G \text{ a subgroup which does not contain any non-trivial normal subgroup of } G, K=G/G_0, L=\{[h]_{G_0}|h\in H\} \subset K \text{ and } (\{F_t\},\{S_t\},\pi,\mathcal{L}_K,L) \text{ a group cover of an ergodic finite extension of an aperiodic conservative flow}\}.$$

The mapping Υ *is given by*

$$\Upsilon(\mathcal{R},\mathcal{S}) = ((G,H,G_0),\ (\{F_t^{\mathcal{P}}\},\{F_t^{\mathcal{R}}\},\pi^{\mathcal{P}}_{\mathcal{R}},\mathrm{mod}_{\tilde{\mathcal{P}}}\,\alpha_K,L)),$$

where $G,H,\mathcal{P}$, *and* α_G *are the group, the subgroup, the subrelation, and the action equipped with the canonical system of* $\mathcal{S}\subset\mathcal{R}$ *and*

$$G_0=\{g\in G|\ \mathrm{mod}_{\tilde{\mathcal{P}}}\,\alpha_g=\mathrm{Id}\}.$$

Here, conjugacy of subgroups and conjugacy of group covers of extensions of flows should be as in the following new definition:

Definition 6.1: $((G,H,G_0),(\{F_t\},\{S_t\},\pi,\mathcal{L}_K,L))$ and

$$((G',H',G'_0),(\{F'_t\},\{S'_t\},\pi',\mathcal{L}_{K'},L'))$$

in $\mathcal{D}$ are conjugate if there is a group isomorphism ρ: $G\to G'$ with $\rho(H)=H'$, $\rho(G_0)=G'_0$ and if the group extensions $(\{F_t\},\{S_t\},\pi))$ and $(\{F'_t\},\{S'_t\},\pi'))$ are conjugate by a pair of conjugacy maps (ϕ,ψ) which commutes with the left translations $\mathcal{L}_K$ and $\mathcal{L}_{K'}$, that is, $\phi\circ\mathcal{L}_{[g]}=\mathcal{L}_{[\rho(g)]}\circ\phi, [g]\in G/G_0$.

In Proposition 8.2, which is one of the consequences of Theorem 6.1, the invariant $((G,H,G_0),(F^{\mathcal{P}},F^{\mathcal{S}},\pi^{\mathcal{P}}_{\mathcal{S}}))$ should be replaced by

$$((G,H,G_0),(F^{\mathcal{P}},F^{\mathcal{R}},\pi^{\mathcal{P}}_{\mathcal{R}},\mathrm{mod}_{\tilde{\mathcal{P}}}\,\alpha_K,K)).$$

We do not need any change for the other consequence (Theorem 8.1). This is because the group cover considered there is minimal.

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